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See page 54

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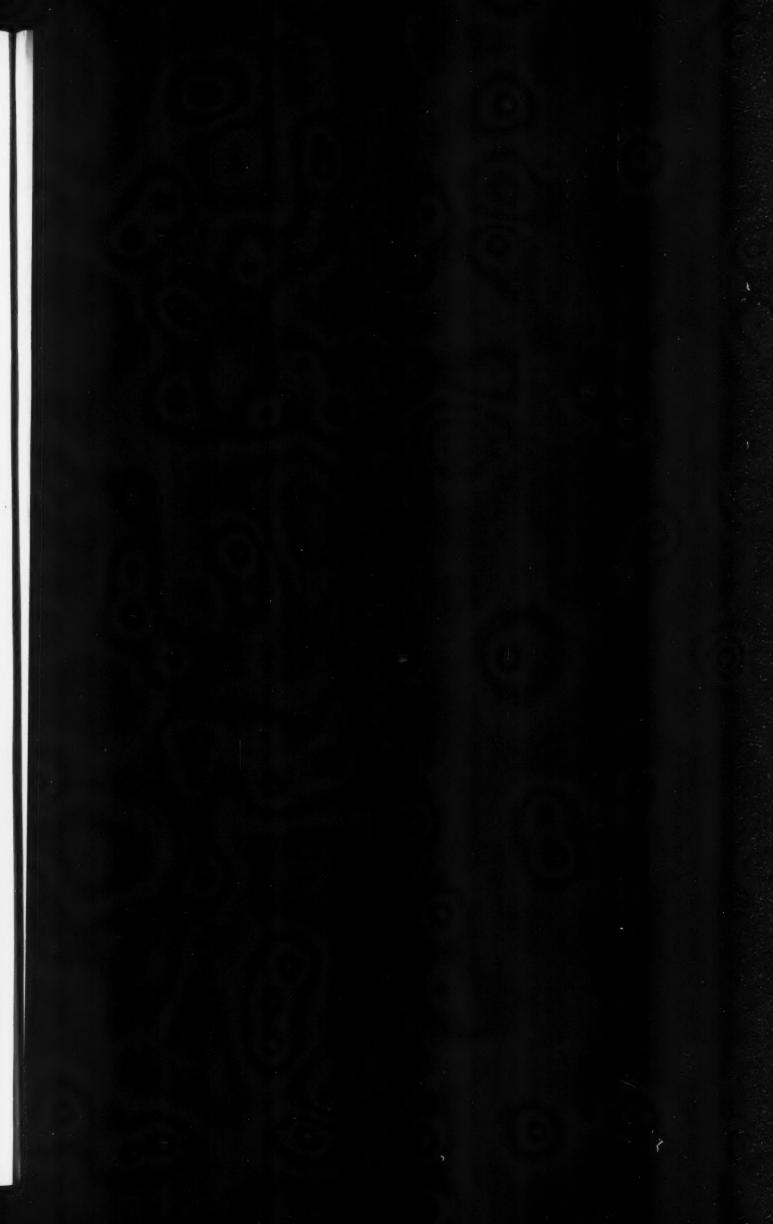
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THE IRON AGE

New York, Thursday, August 20, 1908.

Alliance Electric Traveling Bucket Cranes.

As an economical means of handling loose material, electric traveling cranes with clam-shell buckets have unquestionable merits. The cranes can span any number of railroad tracks, and can load or unload cars on any of the tracks, even with cars standing on all the remaining

its hoist, hold and bridge motors are 22 hp. each, and the trolley motor is 6 hp. Fig. 2 illustrates a standard traveling crane for handling cinder at the National Tube Company's McKeesport Works. This crane operates from a 220 volt direct current system. Its capacity is 10 tons, the span is 70 ft., the lift is 40 ft., the hoist motor is 50 hp., the hold and bridge motors are each 30 hp., and the trolley motor is 10 hp. Fig. 3 shows a standard traveling crane in use in the cement works of the Uni-



Fig. 1.—An Alliance Bucket Gantry Crane in the Scranton, Pa., Yards of the Delaware, Lackawanna & Western Railroad.

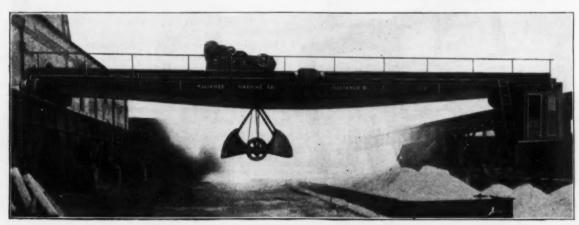


Fig. 2.—A 10-Ton Alliance Crane for Handling Cinder at the National Tube Company's McKeesport Works.

tracks. The operator's cage can be attached to the trolley so that the operator is always directly over his work, or it can be secured anywhere on the bridge. Cranes for such work are built by the Alliance Machine Company, Alliance, Ohio, to operate on either direct or alternating current. The illustrations herewith show three typical equipments.

Fig. 1 shows a gantry crane for handling ashes from an ash pit in the yard of the Delaware, Lackawanna & Western Railroad Company at Scranton, Pa. This crane operates from a three phase 440 volt alternating current system. Its capacity is $3\frac{1}{2}$ tons, the span is 59 ft. 6 in.,

versal Portland Cement Company at Indiana Harbor, Ind. Its capacity is 10 tons, the span is 30 ft., its hoist, hold and bridge motors are each 37 hp., and its trolley motor is 11 hp. A similar one is installed for the same company at Munhall, Pa. These cranes operate from a three phase 110 volt alternating current system.

The trolleys for these cranes can be designed to handle any type of bucket, and can be arranged so that the bucket opens at right angles to or parallel with the runway girders. The cranes are provided with one motor for traveling the trolley, one motor for holsting and closing the bucket, and one motor for holding the bucket while dumping. The crane bridge is driven either by one or two motors, depending upon the capacity of the crane and upon the speed required.

Much can be said in favor of the gantry type of crane, especially when constructed with cantilever ends, as such a crane does not require elevated runways. There is no difficulty in arranging the bridge wheels of the gantry

stroke, while on the return stroke the weight is lifted from the blade due to the pivoting of the connecting arms. The result is longer life and saving in the maintenance of the blades. The machine requires no attention after the work is secured in the vise and the saw started, and can be easily operated by a boy.

The saw accurately cuts off the work and leaves the

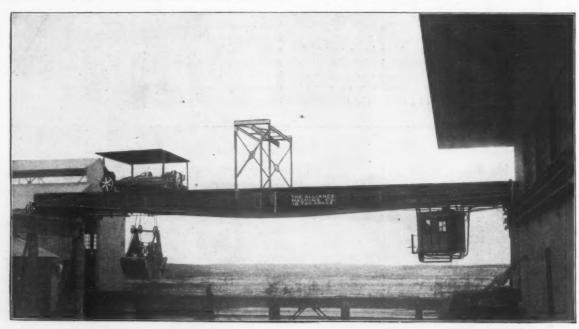


Fig. 3 .- A 10-Ton Alliance Bucket Crane at the Indiana Harbor, Ind., Plant of the Universal Portland Cement Company.

crane so that they will cross railroad tracks which may pass in and out of the space covered by the crane. There are many cases, however, where the standard traveling crane running on elevated runways is undoubtedly the economical arrangement; this is especially true where the crane has a comparatively short longitudinal travel.

A Hoefer Power Metal Saw.

The new power metal saw made by the Hoefer Mfg. Company, Freeport, Ill., illustrated in the accompanying



A New Automatic Power Metal Saw Made by the Hoefer Mfg. Company, Freeport, Ill.

engraving, has met with favor among users by reason of the simplicity of its construction and operation. It is light, compact and durable, but the most important feature claimed for it is that a steady and uniform pressure is maintained on the saw blade during the forward

end square and smooth, thus accomplishing a saving in the metal. When the cutting is completed, the saw automatically lifts from the work and stops. The automatic operation and simplicity of this saw are features which will appeal to seekers of labor saving tools. It is made in two sizes: No. 1 cutting round or square stock up to $4\frac{1}{2}$ in., and No. 2 cutting up to 6×8 in. The floor rest shown in the illustration is furnished with each saw without extra charge. The saw can be readily equipped with motor or belt drive.

The American Manganese Bronze Company.

The American Manganese Bronze Company, 99 John street, New York, announces the completion of its works at Holmesburg Junction, Philadelphia, on the New York Division of the Pennsylvania Railroad. The buildings are of reinforced concrete and steel framework construction, with brick curtain walls, and consist of melting plant and foundry, metal storehouse, core shop and office, with complete chemical and testing laboratories, light and power plant and machine shop.

The main building is equipped with a 10-ton Niles electric crane, which, together with a one-ton electric hoist, serves the entire plant. Special attention has been given to light and ventilation. The plant is equipped with pneumatic tools for the cleaning of castings, and its 600 ft. of siding running the entire length of the plant insures economical handling of raw material and shipments. Nothing has been omitted in the construction of the plant that would tend to make it thoroughly modern and up to date in every particular.

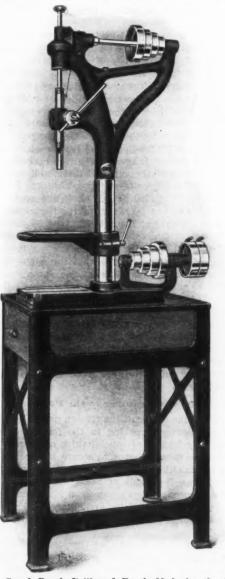
The products of the American Manganese Bronze Company comprise ingots, billets, forgings, rods and sheets, together with both large and small castings. It has the facilities to supply bronze castings up to 20,000 lb. each, and in this particular it occupies the unique position of being able to produce the largest bronze castings in this country. In addition to its special Spare's manganese bronze, Spare's white bronze and Spare's hydraulic bronze alloys, the company produces standard United States Government compositions and other high grade alloys designed to meet the most severe engineering requirements. U. T. Hungerford is president and W. A. Locke is secretary and treasurer.

The Stecher High Speed Bench Drill.

The high speed bench drill here illustrated has just been brought out by the Charles Stecher Company, 19 South Jefferson street, Chicago. It is designed for light work, having a capacity for drilling up to ½ in. holes, and is described as an especially desirable machine for tool room and manufacturing purposes.

The drill spindle has four speed changes supplied by a four-step cone and is driven through a pair of mitre gears. To secure steadiness of motion and quiet operation at high speeds a rawhide gear is used on the horizontal shaft; the mitre gear on the spindle is a cut cast iron gear. These gears are of eight pitch and of ample dimensions for the speed and power service required, and are inclosed in a tight case.

The drill spindle is counterbalanced, has extra long travel, and is provided with an adjustable stop collar on its upper end. It is also provided with a ball thrust



A High Speed Bench Drill and Bench Made by the Charles Stecher Company, Chicago.

bearing at the lower end of its sleeve, and the drift hole is below this bearing. The lower end is bored for a standard No. 1 Morse taper. The hand lever for feeding the drill is adjustable in position. It operates the spindle sleeve through a cut steel pinion engaging rack teeth in the sleeve.

The base, 8 x 10 in. in size, is planed and has two T slots for jig work. It is cast in one piece with the countershaft frame, which carries a four-step cone for 1-in. belt, and tight and loose pulleys 5 x 1½ in. The table clamped to the column by a split collar has lateral and perpendicular adjustment and can be dropped all the way down to the base. There is an oil groove cast around the table.

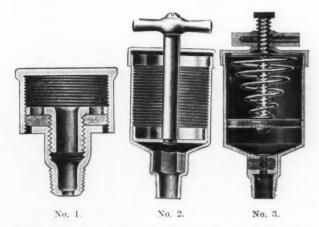
All bearings are split to provide for taking up wear and are bushed with seamless brass tubing; no babbitt is used in the construction of the drill. By the use of jigs and special tools all machined parts are made interchangeable. Though the drill is rated for a safe working speed of 2400 rev. per min. with high speed drills, the highest speed recommended for ordinary work is 1200 rev. per min.

The company also makes the drill bench shown in the engraving, which is specially designed for the convenient mounting of the drill. It is constructed of a well braced cast iron frame and is fitted with a wooden tool drawer for storing drills and other tools.

The general dimensions of the drill are as follows: Swing, 10 in.; size of table, over all, 8 x 10 in.; maximum distance table to spindle, 14 in., and of bed to table, 18 in.; diameter of spindle, $\frac{5}{8}$ in.; feed of spindle, 4 in.; hight over all 41 in., and net weight, 130 lb.

The Empress Grease Cups.

The Bowen Mfg. Company, Auburn, N. Y., claims to be the first to make a line of spring compression and marine grease cups from sheet metal. Illustrations are herewith given of some of the leading styles of these cups, which are placed on the market as the Empressine, and are made in steel or brass. The illustrations are sectional, so as to show the interior construction. The engraving marked No. 1 is the plain compression cup, No. 2 is the marine compression cup and No. 3 is the spring compression cup. The plain compression cup is fitted with a leather washer. The leather can be adjusted by a spanner to a tight fit a all times, making a



Sectional Views of Some of the Empress Grease Cups Made by the Bowen Mfg. Company, Auburn, N. Y.

leakage of grease impossible, though the cup be used in a warm place. Although all these cups are lighter than cast brass or iron cups, they are stronger and of neat appearance. All the spring compression cups are equipped with a good heavy spring and an excellent feed regulating arrangement, so that the amount of grease can be regulated to suit the bearing. The company claims to be the first to place on the market a marine grease cup with a leather packed plunger. The regular pipe thread is furnished unless otherwise specified. Although the Bowen Mfg. Company but recently completed its new plant, it has since added a wing, 66 x 138 ft., four stories. In addition to the manufacture of oil and grease cups, attention is given to general brass or steel stampings and machine screw work.

As illustrating what the railroads have to meet in the way of expense, owing to the requirements of the Interstate Commerce Commission relative to the filing of freight tariffs at all stations after this year, the Panhandle Railroad furnishes an example. It finds that filing cabinets alone will cost nearly \$20,000, as more than 500 stations must be covered. As the cabinets cost from \$28 to \$150 each, the expense to great railroad systems will be readily appreciated.

The Working Requirement in Patent Law.

Shall the United States Enact Such a Requirement?

BY JOHN D. MORGAN.

The United States is to-day according rights and privileges to foreign inventors much greater than those accorded to our inventors in foreign countries. This condition was rendered more extreme, and attention called to it more forcibly, by the recent change of attitude of Great Britain toward foreign inventors.

The points of difference between the attitude toward foreign patentees of the United States and the principal foreign countries are two in number, and are as follows: First, in most countries, in addition to the fees for examination and issuance of a patent, an annual tax is imposed upon each patent, and, second, the patentee is required to "work" the patent in the granting country. In the United States, on the other hand, the patentee is required to pay only the fees required by the Government for filing the application and issuing the patent. He is not burdened by any annual tax levy nor is he obliged to "work" the patent; that is, to put the invention into actual commercial practice.

Every foreign country of any importance from a patent standpoint has long imposed such an annual tax upon the owners of patents, and with the exception of Great Britain required also a "working" of the invention. Great Britain, in common with the other principal commercial countries, imposed a tax on patents, but until about a year ago there was no requirement in the English law that an invention must be "worked" or put into commercial practice in the United Kingdom in order to maintain the validity of the patent.

The Liberal Attitude of the United States.

The United States differs from all other important countries in the matter of the non-taxing of patents, and now with the change of attitude of England this is true also with regard to the working of patents. The practical effect of the "working" requirement is to stop the importation of the patented thing and, in some countries, to compel its manufacture within the patenting country on pain of losing the patent. The United States, therefore, now stands alone in permitting the importation of patented things, American inventors at the same time being estopped from selling abroad patented things manufactured in this country.

The proportion of patents taken out by citizens of the United States in the principal foreign countries is much greater than the number of patents taken out by the citizens of each of these countries, respectively, in the United States. Also, exports to Great Britain, France and Germany are far greater than imports therefrom, although these totals compared included in all cases raw as well as manufactured materials. In view of these facts, it seems reasonable to presume that the United States exports more than it imports of patented manufactures. It will thus be seen that the net burden of disadvantage to foreign inventors arising from the imposition of such restrictions falls upon the United States.

The General Disadvantage.

The disadvantage falls both upon the nation and upon the individual patentee. In its national aspect it tends to turn the balance of trade in favor of the country demanding the working of inventions, as it causes to be manufactured within the country things that otherwise would have been imported. It serves thus to cut down the imports into such country while in itself not affecting the volume of export business. On the other hand, however, a very great effect on the volume of export business in a given country would be had by other countries in turn enacting laws of a similar character. In other words, the disadvantage to any country by loss in manufacturing and exports would be counteracted in some degree by that country enacting a corresponding law. Whether such a

law shall be enacted is one of the questions the United States must decide. The degree in which it could be counteracted might be regarded as proportionate to the relative importation by each country from the other of manufactures patented in the importing country.

The effect nationally would be further felt as a benefit in the country requiring the working by the growing up of manufacturing establishments to supply the demand for the things upon the importation of which the law has laid its inhibition. This would likewise operate disadvantageously to the country of the patentee, as the gain in business in the specific form indicated would be drawn directly from his own country. The operation of this factor is multifold. The value of taxable property is increased by the advent of new factories, and the money expended in establishing these manufacturing plants goes to enrich the general business community. Where the foreign patentees still maintain control of their inventions, this gain is absolute; that is, the gross gain and the net gain are substantially the same. In England this will be the condition under which most of the large and important American concerns will comply with the law, as the business now supplied by importation into that country is sufficiently extensive and valuable to make this the more desirable course.

In the next place the employment of operatives in the patenting country is increased, and many such operatives are naturally among the most skilled and highest priced workmen. It will be unnecessary to revert to the more remote advantages growing out of this employment, such as the expenditure by the workmen of the greater part of their earnings with landlords and tradesmen. In the next place a new market is created for raw materials used in the manufacture of the patented thing, and usually there will be found a source of supply within the country.

This is not intended as an exhaustive analysis of the entire effects of the operation of the "working" law in the case of foreign patentees, but is intended to show that other important interests for the nation are involved outside of the national dignity or honor, or the supposed necessity of treating foreigners on the same terms that are accorded us abroad. These other interests certainly appear more substantial and tangible so far as the manufacturers of machinery and other patented things are concerned.

Yet these reasons of national dignity and insistence upon as liberal treatment by others as we accord to them are by no means unimportant. The treatment of this phase of the question, however, is political rather than commercial or industrial, and need not be discussed at any length here.

The Disadvantage to the Patentee.

So far as the owner of the foreign patent is concerned, the requirement of working in the foreign country detracts greatly from the financial value of his patent right. The patentee usually hopes to secure his profit upon his foreign rights either by sale of the patents outright or by manufacturing the goods at home and sending them to the foreign country, depending upon his patent monopoly there to ward off competition and assure to him the profits of the monopolist rather than those of one in commercial competition.

There can be no doubt that the working requirement within a limited number of years operates disadvantageously to the sale outright of foreign patents. sums have been frequently paid for important patent monopolies, the demanding of such sums by the seller of the monopoly being based upon the supposed discounting of great prospective earnings, while, on the other hand, capitalists have been willing to make such payments because of the hope of duplicating the vast earnings of other inventions already successfully exploited. Negotiations in such important transactions are necessarily more or less slow, and it is not difficult to conceive of the foreign inventor being left, by such deferred negotiations and hopes, with too little time in which to effect his workings on important machines involving great outlay of time and money, and thus being forced into price concessions on his monopoly that would represent a grave loss. Outside of such contingencies, his patent monopoly is obviously depreciated in value by the mere fact that

^{*} Of the New York Patent Bar.

unless he sells he must go to the labor and expense of working. This reasoning of course does not apply with proportionate force in the matter of small articles and inexpensive machinery. It, however, applies with tremendous force to the manufacturers of complicated and costly machines, and to patentees of extensive lines of

In case the patentee does not wish to sell his rights, the taking away of the privilege of importing frequently involves heavy losses. Important among these is the necessity for duplication of plant. The necessity for sinking a large sum in a foreign factory is sometimes a formidable thing. It is far more costly than an extension of the home factory to enable it to meet both the domestic and the foreign demands in output. Where the home factory is already adequate and designed to meet this demand, the investment in the foreign factory becomes practically a dead charge. Nor is the maintenance of an additional administrative staff a negligible matter in many instances. The organization abroad necessary for handling and selling the imported products may be insignificant compared with that required for a branch factory.

It is a fact recognized by those experienced in the mechanic arts that the mechanical genius of the workmen of different nations runs in different lines and that machinery which might be manufactured in one country with practically no difficulties along this line might be almost impossible of production in another country. would be impracticable to convey to one unfamiliar with manufacturing processes the seriousness, or even the existence, of difficulties of this character. To those who know, either from experience or observation, further comment is unnecessary. It is well known to those informed along such lines that in this country certain kinds of machines which are manufactured successfully in certain States could not be produced at all in others under existing industrial conditions, even when those others are active along other mechanical lines.

Effect of Change of Attitude.

It will not be difficult, therefore, to realize what an important question to foreign patentees and manufacturers is this question of working of patents in a particular country. It will be understood further how those difficulties are intensified through a sudden change of attitude upon such a question by an important consuming nation such as Great Britain. The necessity of action in order to save vested and exceedingly valuable interests is thus forced upon many concerns. That this works injury to the nation as well as to the individual cannot be doubted. Further, while the legal right of a nation to such a change of front in a matter of this kind may not be open to challenge, yet its moral and commercial right to do this may be questioned. In fact, it may be found that the injuries inflicted on foreigners who have long had commercial relations with the country may be such that the home government of such foreigners may feel it their duty to retaliate in kind.

With respect to Germany, the conditions have been stable for many years, and though conditions were disadvantageous both to the United States as a nation and to its citizens holding patents in Germany, the conditions were foreseen and foreknown. In Great Britain, however, this was not the case, and American manufacturers feel that the English law was aimed directly at them. It cannot be doubted that the inroads upon English commerce by German products protected by English patents were also an important factor. This condition obtained especially with regard to electrical machinery and the products of industrial chemistry. In the first field Germany is a strenuous competitor of the United States, and in the second she is without a rival.

If, however, it had been the purpose of the English Parliament, acting in response to the pressure of English commercial influences, to shut off German competition alone, its law could have been framed to apply only to nations which placed the same requirements upon English inventors. That the law was not so framed is regarded as showing unquestionably that the heavy importations of commercial and special machinery from the United States

above and beyond all else actuated the English commercial interests in demanding such a law of Parliament.

What Will Determine the Attitude of the United States?

The question of whether or not the United States will enact a similar law will probably come before Congress at the next session. Whether such a law is enacted will depend especially upon whether the conditions which brought about the passage of such a law in England will That is, it lies with the manufacturing obtain here. interests of the country to bring to bear upon Congress such pressure as to secure the enactment of a "working" law, if it is to be passed. If there is no such demand from industrial circles, it is highly improbable that the principle of retaliation or maintaining an attitude of equal dignty toward foregn nations will serve to bring about the enactment of such a law. In passing, it is well to remember that the American high tariff is somewhat of a sore spot in the consciousness of both England and Germany, and the conditions which brought the tariff system into being were very similar to those which caused the enactment of the provision of the English patent law under discussion, namely, an overwhelming internal commercial sentiment operating against and overcoming a known disapproval by other countries.

Another factor entering into the question of whether the United States shall change its attitude on this subject is a different interpretation of the fundamental mora! or common law right underlying the statutes authorizing the granting of the patent monopoly. The German law lays the requirement of "working" a patent upon both native and foreign inventors alike. The new English statute puts it upon foreign inventors only. The United States has left immune from such a requirement both native and foreign inventors.

It will be seen, therefore, that the basic ideas of what constitutes a dedication by the inventor of his invention to the public, or in other words what constitutes a giving of his invention, are different in the United States and in Germany. In this country it is held sufficient that an inventor merely gives what may be called an intellectual disclosure of his invention to secure a bestowal upon him of the patent monopoly, while in Germany an eventual actual commercial exploitation is considered as the disclosure which bestows upon the inventor the right to his monopoly. England, by adopting a different attitude toward native and foreign inventors respectively, departs from any consistent basic principle upon which to base the granting of patents generally. The foregoing is not an adequate ultimate analysis of this point, but is probably sufficient for the purposes of this article.

Wording of the German and English Laws.

The provisions as to "working" in the German and English patent laws, respectively, are as follows:

GERMANY.

A patent can be revoked after the lapse of three years, calculated from the day after the publication (Sec. 26, Sec. 1) of the grant of the patent:

If the patentee neglects to work his invention in the country (the German Empire) to an adequate extent, or to do

all that was requisite for securing the said working;

2. When it appears conducive to the public interest that permission to use the invention be granted to others, and the patence refuses to grant such permission for a reasonable compensation and on good security.

ENGLAND.

1. At any time not less than four years after the date of a patent and not less than one year after the passing of this act, any person may apply to the comptroller for the revocation of the patent on the ground that the patented article or process is manufactured or carried on exclusively or mainly outside the United Kingdom.

comptroller shall consider the application, after inquiry he is satisfied that the allegations contained therearter inquiry he is satisfied that the allegations contained therein are correct, then, subject to the provisions of this section, and unless the patentee proves that the patented article or process is manufactured or carried on to an adequate extent in the United Kingdom, or gives satisfactory reasons why the article or process is not so manufactured or carried on, the comptroller may make an order revoking the patent either:

(a) forthwith; or

(b) after such reasonable interval as may be specified in the er, unless in the meantime it is shown to his satisfaction

that the patented article or process is manufactured or carried on within the United Kingdom to an adequate extent:

Provided, that no such order shall be made which is at variance with any treaty, convention, arrangement or engagement with any foreign country or British possession.

3. If within the time limited in the order the patented article or process is not manufactured or carried on within the United Kingdom to an adequate extent, but the patentee gives satisfactory reasons why it is not so manufactured or carried on, the comptroller may extend the period mentioned in the previous order for such period not exceeding 12 months as may be specified in the subsequent order.

4. Any decision of the comptroller under this section shall be subject to appeal to the court, and on any such appeal the law officer or such other counsel as he may appoint shall be entitled to appear and be heard.

No discussion is necessary to show that the English statute is specifically directed against importation and sale of patented articles, whereas the German law, as previously stated, seems to be directed against nonuser of all patents in the German Empire.

What Has Been Done.

Various bills were introduced in the last United States Congress looking to the enactment of a law upon this subject. If such a law is passed, however, it will be the result of careful consideration between the patent committees of the two houses of Congress and the Commissioner of Patents. There is no doubt, however, that all three of these will be glad to have an expression of opinion both from patentees and manufacturing concerns who would be affected, and also from those who are versed in the patent laws of the various countries.

A General or Retaliatory Statute?

One question which must be decided at the very outset is whether the law will be a general law changing the policy and attitude of the Federal Government toward all patentees or whether it will be frankly in the nature of retaliatory legislation. In the United States the doctrine that nonuser of the patented invention does not abrogate or invalidate the legal rights of the patentee has the sanction of the Supreme Court. There is even a question as to whether every whit as much protection would not be given to the nonusing patentee as to the one who has commercially exploited his invention.

There has developed, therefore, in the United States a tremendous array of what is known as "paper patents"; that is, patents which never have and never will be used industrially by the patentees or owners. So it will be seen that wrapped up with this question of our attitude toward inventors of foreign nations is that of a change of attitude toward native inventors. Should the United States decide to impose working requirements only upon inventors from countries making similar requirements upon our inventors, its action would be merely that of adopting a retaliatory attitude toward those governments, while if the requirement were made general it would mean a change of attitude amounting to a revolution in the basic theory of our patent law.

A general law, therefore, requiring working by all patentees would amount to a reversal of attitude which, even were Congress to attempt it, would be effectually prevented by the strenuous opposition of many great interests, including concerns depending on unused patents to protect their businesses, which are opposed to any change of attitude in this respect. Should a frank retaliatory measure be enacted, there would of course be nothing to disturb the serenity of the internal or domestic patent situation.

The Effect Abroad.

On the other hand, it would not be at all astonishing if a certain part of the English manufacturing and commercial world should awaken to a sense that it was being hurt, perhaps seriously, by such an American law. only strong argument, however, in the face of the maintenance of the English law against American patentee importers, would be that we were throwing a double protection around our manufacturers-first, by our high tariff on manufactured articles and, second, by the specific inhibitory legislation which we have been consider-Nor is this entirely without force. Imagine the English patentee with a superior article, perhaps, confronted by an import duty of, say, 40 per cent. He would maintain that this handicap alone was surely equal to that imposed upon the American patentee who was obliged to manufacture in England.

The practical answer to this, however, is that the tariff is an old story and the English working law a new

one, and that as England has seen fit at this time to disturb the commercial equilibrium she cannot use as an equilibrating factor any disadvantages against herself that were counted in to make a former balance. Furthermore, representations made to Great Britain by the United States on the subject of the English law were without effect; hence it is unlikely that the English Government would take any active steps whatever. The English manufacturer affected by such a law here would probably be left, as were American importing patentee manufacturers by England, to find his own way out of his difficulties.

If Germany should wish to protest on the ground that our law was aimed against foreign importers only while her own law was a general provision applicable to Germans and others alike, our own Government might in reply refer to a tariff system which in many of its features was not confined to manufactured articles, and certain of whose provisions were aimed directly at American importations wholly commercial as distinguished from technical or industrial products.

A Law Should Be Passed.

In fact, the passage of such a law by the United States would seem to be entirely justified either on the basis of industrial necessity or that we cannot consistently accord to citizens of other countries privileges denied American citizens in those countries, or on the other hand that the imposition of equal requirements by the Government of all important industrial countries of restrictions against foreign inventors might lead to a mutual waiver of such restrictions when other means looking to that end fail. That the United States is at present in an undesirable position in this matter seems hardly open to question. That the future attitude of the Government in the matter will depend largely upon the expressions of the industrial and manufacturing elements interested is also equally certain.

The Obermayer Molding Machine Snap Flask.

The new flask for machine molding recently put on the market by the S. Obermayer Company herewith illustrated, is claimed to combine all the good points



The Obermayer Molding Machine Snap Flask.

needed in a flask of this kind. It is made of 1½-in, kiln dried cherry, grooved, has machine locked corners, is bound top and bottom with iron bands, securely screwed to the flask with solid corners welded. A perfectly rigid flask is thus secured. The corner plates are of extra heavy malleable iron. The hinges are also malleable with machined bearings the entire length of the flask. The hollow V-shaped pin and guides insure close contact and permit the sand to drop between the pin and flask. The snap used on this flask is simple, strong and efficient, and made either in the hook or lever type. It can be procured from the S. Obermayer Company's offices in Cincinnati, Chicago or Pittsburgh.

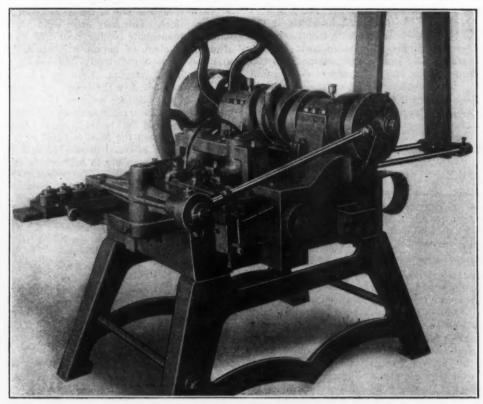
The New England Foundrymen's Association held the second of its summer outings at the Squantum Club, Providence, R. I., August 14, with a large attendance, the attraction of a Rhode Island shore dinner being always a strong one. The Committee of Arrangements consisted of Henry A. Carpenter, General Fire Extinguisher Company; Alfred J. Miller and William A. Viall of the Brown & Sharpe Mfg. Company, all of Providence.

The Perkins Spiral Head Wire Nail Machine.

The new spiral head wire nail machine shown in the illustration forms large thin heads on nails for slating, reofing, or other purposes where such a head is desired.

door. The door is securely locked again by merely righting the car. The whole device is entirely beneath the car body, so that it is protected from injury.

Among the important features, the durable construction of the door and the method by which it is attached,



The New Spiral Head Wire Nail Machine Built by the Henry Perkins Company, Bridgewater, Mass.

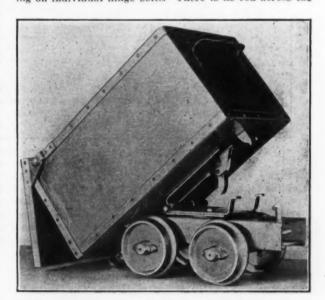
It is declared to embody the best features of the domestic and foreign nail machines, together with improvements suggested by the experience of the builder, the Henry Perkins Company, Bridgewater, Mass. The machine will make a ½-in. head on No. 9 wire, or a regular head on No. 6 wire. It is liberally proportioned, with main spindle bearings 4 x 7 in., and all wearing surfaces larger and longer than is usual in machines of this size. The spindle, header and gripping lever carrying the moving die are open hearth steel forgings, and all parts subject to heavy duty are of tempered tool steel.

The spring that makes the head is of hickory, fastened at the base by straps to a heavy cast iron V-block, and is reinforced at the base by flat steel springs \(^3\)/s in. thick by 3 in. wide, and at the working end by a heavy spiral spring. The dies are of stock 1½ in. square for the gripping dies and \(^3\)/4 in. square for the pointing dies, and each is fastened in the machine by a strap bearing on the corner of the die in the same way as in the regular Perkins machine, permitting the dies to be taken out and replaced when necessary in much less than the time usually required. The mechanism to feed and straighten the wire in its reverse or backward motion works in a half revolution of the machine. The machine can be run at 110 revolutions a minute, and weighs 3700 lb.

A New Kilbourne & Jacobs Mine Car.

A mine car having a unique mechanism for automatically discharging the load, is a new product of the Kilbourne & Jacobs Mfg. Company, Columbus, Ohio. The door opening device is extremely simple but effective. It is comprised of a rod, one end of which is pivoted to an eccentric locking cam, the opposite end being attached to the lock. The lock consists of a pivoted hook, the pivot of which slides in a yoke having a curved bearing surface. When the door is locked, the pivot is within the yoke and the hook is held upright, while the locking cam is against the face of the turntable. On raising the car body to an angle of seven or eight degrees, the locking cam is released and the weight of the load opens the

together with the strength of the hinges, are prominent. The door is reinforced at the top and bottom by strong bars, and its side edges are flanged. The hinges consist of triangular gusset plates reinforced at the pivot and working on individual hinge bolts. There is no rod across the



An Automatic Dumping Mine Car Made by the Kilbourne & Jacobs Mfg. Company, Columbus, Ohio.

car, and no obstruction is offered by the hinge bolts either inside or outside of the car.

The H. L. Dixon Company, Pittsburgh, Pa., has lately taken the sole agency for the Herrick patented gas producers in the United States and Canada for their exclusive use in the glass trade and its adjuncts. All other contracts for these producers between James A. Herrick, New York, and his former agents have expired by limitation.

The Turner-Fricke Gas Engine.

Some Improvements in a Standard Type of Vertical Engine.

The type of gas engine illustrated herewith is the result of over 10 years of experience with installations in various kinds of continuous and intermittent service. These engines are built in sizes ranging from 25 to 325 h. p. by the Turner-Fricke Mfg. Company of Sharon and Pittsburgh, Pa. The design upon which they are built, as stated by the company, is simply the harnessing of old successful principles in a good substantial machine, made in consideration of the fact that every machine in active service needs occasional adjustment and repairs. These, however, are minimized by extra large wearing surfaces on all moving parts, and by having all stationary parts extra heavy and rigidly constructed. The Turner-Fricke

wear is easily made by means of wedge bolts. No outside reference marks or loose gauges are required for aligning the shaft; danger of springing the shaft is entirely eliminated; and compression in the cylinders is not decreased by the shaft gradually wearing to a lower center.

Valve trouble is one of the chief grievances of gas engine operators. This may arise from various causes, as follows: Inadequate cooling, poor materials, faulty actuating mechanism, or improper location. It is essential that the seat be sufficiently and evenly cooled to prevent burning or warping. Locating a valve in a removable cage does not give the benefit of water jacketing on account of the distance between the valve seat and the water, which this arrangement necessitates. It has been repeatedly proved that metal-to-metal is a good conductor of heat only when the joint is fused or a tightly driven fit. Using poor material causes the seat to pit and cut, and makes it impossible to maintain a tight valve even with frequent regrinding. Inferior material is also re-

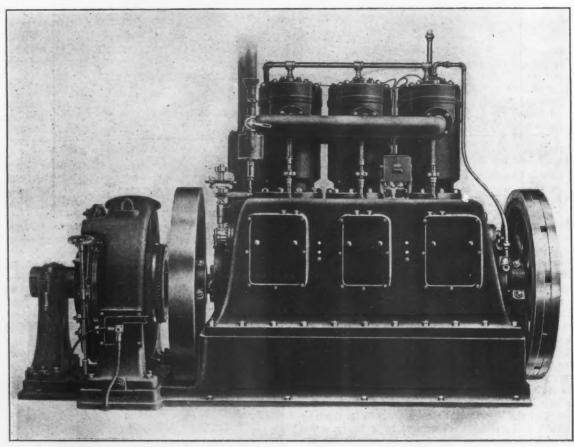


Fig. 1.-A 150-Hp. Turner-Fricke Gas Engine Directly Connected to a 90-Kw. Generator.

gas engine, of which a perspective view is given in Fig. 1, is of the four cycle, multiple cylinder, vertical, inclosed type. Large covered manholes—both front and rear—are provided so that all moving parts are easily accessible for inspection or adjustment, and, in addition to a splash system, the main and crank journals are lubricated by a forced feed system.

Occasionally an engine is wrecked or put out of service temporarily by the breaking of a crank shaft from no apparent cause. In almost every case this is due to the imperfect alignment of the main bearings. This springs the shaft, gradually crystallizes the steel and ultimately results in a fracture and the accompanying losses. In the engine here illustrated the crank shaft bearing pillow blocks are cast as a part of the base, which makes it impossible to disturb the lateral alignment of the crank shaft. To facilitate accurate machining, and thus establish the correct and permanent line for the shaft, the engine base has been cast separately from the crank case. Being a single acting engine, the wear on the bearings is on the lower half. The shaft is in alignment when up against the bearing caps, which are bolted, without shims, to the top of the pillow blocks, and thus fixed in their correct location. Adjustment for

sponsible for valves breaking off of the stems and getting into the clearance space between the piston and cylinder head, with disastrous results. Too often the actuating mechanism is complicated, or is not adjustable, or does not act in a straight line, thus tipping the valve on its seat and wearing the guide out of true. Generally this mechanism is located on, or so as to interfere with, some parts that should be removed for occasional inspection or adjustment.

Valves are best located on a vertical axls in a water jacket completely surrounding the seat. They should be so arranged as to be always in alignment with the actuating mechanism, which should move in coincidence with the axis of the valve. A wise precaution is to have the valve and clearance space so designed that there shall be no pockets to retard rapid combustion and complete scavenging, and still so as to prevent a valve from getting into the cylinder, should one happen to break from its stem. That these conditions give ideal results has been demonstrated in the Turner-Fricke engine, in which exhaust valves have been used in almost continuous service for more than a year without regrinding and yet showing only the slightest wear. The arrangement of the valves in this engine is shown very clearly in Fig. 2—

inlet in front and exhaust in the rear, each controlled independently by separate cam shafts. In this illustration will be noticed a small ground joint cover directly over each valve. This obviates the necessity of removing a head or breaking water connections to inspect or regrind valves. It will also be noticed that the heads carry no moving parts, and hence may be removed readily for inspecting cylinders and pistons without interfering with any of the mechanism. A section through a valve, with its water jacket, is shown in Fig. 3.

The governor is driven by means of a pair of bevel gears, from the inlet camshaft on which there is little torque or wear on account, of the ease with which the inlet valves are operated, and therefore gives close and steady regulation. It is of the throttling fly-ball type, with heavy weights and stiff springs. The gas and air mixing valve, Fig. 4, is of the balanced piston type, with

Fig. 2.—Section Through a Turner-Fricke Gas Engine.

ports so arranged that the proper proportions of gas and air are automatically maintained under all loads. The ports are so located that a thorough mixture is assured. The proportion of air and gas may be regulated by means of a hand lever while the engine is running.

Automobile builders have been responsible for many of the improvements in modern gas engines, although the developments have been of smaller size than on stationary engines. Among other things, they have impressed the advantages of a good lubricating system, which increases the mechanical efficiency and greatly prolongs the life of the wearing parts. Supplementary to a splash system, the Turner-Fricke engine has a forced feed system which is shown in Figs. 2 and 5. Oil is pumped into the main bearings, Fig. 6, thence through oil holes in the crank shaft to the crank pins. This oil, which also supplies the splash system, is drained through filters and is continually kept in circulation, flooding the bearings. The oil pump, operated from the exhaust cam shaft, together with the oil piping, is inclosed in the crank case,

making it easy to keep the engine clean and giving it a neat appearance. Where only the splash system is used, there is a tendency to prevent oil from reaching the crank pin journals, due to centrifugal force caused by the high rotating speed of the cranks.

A notable feature of the Turner-Fricke engine is the

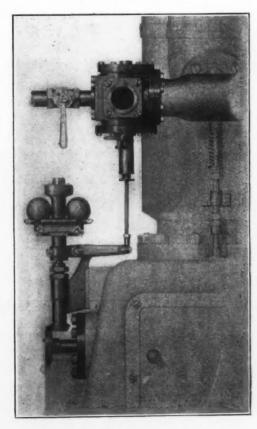


Fig. 4.—The Governor and Mixing Valve.

compressed air starting device, Fig. 7. It is actuated by a cam on one end of the inlet camshaft, and is automatically thrown into service by turning on the air supply, dropping out of use when the air is shut off. The

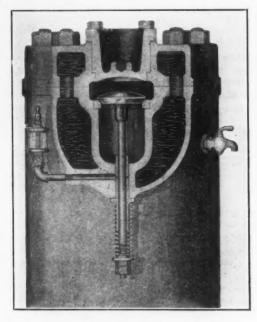


Fig. 3 .- Section Through a Valve Showing the Water Jacket.

air pressure takes the place of springs, and there are no small valves or mechanism to get out of order. A simple jack on the exhaust valve push rod enables the valve to be kept open to prevent compression in one or more cylinders while starting the engine. A special device is provided on the inlet valve to keep it closed while start-

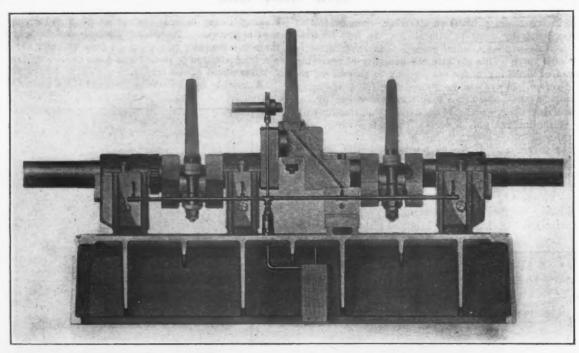


Fig. 5.—Section Showing the Forced Feed Lubricating System.

ing with compressed air. These contrivances also enable the operator to cut out any cylinder while the engine is running.

Complete satisfaction has been derived from the use in this engine of jump spark ignition. Besides presenting mechanical and electrical advantages which should not be overlooked, there are no springs to stick. no push rods or lever arms to adjust and oil, and no transmission mechanism to keep in repair. A small adjustable timing device on one end of the exhaust camshaft regulates the time of ignition of the explosive mixture. The igniter plug enters the center of the compression space through the cylinder head, and is well water jacketed, thus assuring long service and preventing premature explosions. There are no pockets in the clearance space to cause slow combustion or to retard scavenging, and no projections to become overheated and The locacause premature explosions or "back shots." tion of inlet and exhaust valves on opposite sides of the cylinder permits the fresh incoming charge to sweep out . almost all of the spent gases, and leave a rich, quick igniting mixture for every impulse.

The finished parts of the engine are made in accurate jigs and templates by machines especially adapted to this particular grade of work. This assures interchangeability of like pieces, and minimizes the number of patterns and castings necessary to be carried in stock for construction purposes and for emergency repair cases. All nuts, bolts, and, in fact, all parts that might other-

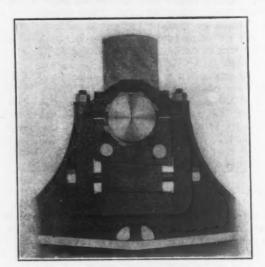


Fig. 6 .- Main Bearing of a Turner-Fricke Gas Engine.

wise possibly work loose, are securely locked and pinned, thus safeguarding against mishaps.

By means of the large covored manholes in the crank case, all of the moving parts—including the upper end of

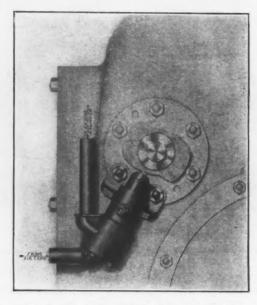


Fig. 7.—The Compressed Air Starting Device.

the connecting rod—are easily accessible for inspection and repairs. Lack of consideration for the operating engineer, making it irksome for him to care properly for his engines, generally results in costly repairs and loss of time, which would have been prevented could he have made regular inspections conveniently.

With the present competition among engine builders, it is essential that a gas engine which would maintain a hold in the trade should be properly designed and constructed so as to run smoothly, quietly and continually, capable of handling varying loads steadily and efficiently, and with a minimum cost for maintenance and repairs. Reliability, which has been satisfactorfly attained in the high grade gas engine, is a very important factor, in view of the loss which an unexpected shut-down entails.

The Crucible Steel Company of America has completed the removal of its entire stock of steel and bar and sheet copper from its old quarters at 64-66 South Clinton street, Chicago, to its new warehouse at 117, 119 and 121 West Washington boulevard, Chicago.

A Large Mesta All Steel Shear.

The special feature of the large shear shown in the accompanying engraving and recently built by the Mesta Machine Company, Pittsburgh, Pa., for the Central Iron & Coal Company, Lebanon, Pa., is that all of its castings are steel. These include not only the lever but also the entire bed and housing. Steel castings were used instead of cast or air furnace iron to meet the heavy service brought about by the increase in section in so much of the material now being rolled.

This shear, which has a capacity of 6 x 6 in. cold steel of 0.5 per cent. carbon is designed to operate at the rate of 12 cuts per minute, and, as seen in the illustration, is belt driven. The weight is 145,000 lb. The knives are 30 in. long, and, following the customary practice, are reversible, thus affording four cutting edges. The main pin and crank shaft are unusually large. The cast steel gear and pinion were molded on a Mesta gear molding machine, by which process all the teeth are molded from the same tooth block and machine spaced. The large gear is 10½ ft. in diameter, 4½ in. circular pitch, 14½ in. face and 17½ in. over the shrouds.

Since this shear was shipped the Mesta Machine Com-

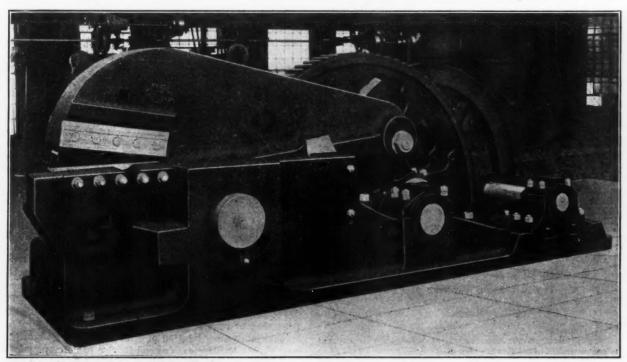
vators as the number of floors is increased. The elevator wells already absorb a very large proportion of the total floor area in the high structures."

Canadian Mid-Year Pig Iron Statistics.

The blast furnaces of Canada produced 307,062 gross tons of pig iron in the first half of 1908, according to the statistics of the American Iron and Steel Association, or within a few thousand tons of their high record of 311,046 tons in the second half of 1907. This is quite in contrast with the great difference between the outputs in these two periods in the United States, due to the panic and depression. However, while 14 furnaces in Canada were in blast all or a part of the first six months of the year, only seven were running June 30. The following table gives the half yearly production of pig iron in Canada since 1905:

1905.	1906.	1907.	1908.
First half210,206	282,010	270,100	307,062
Second half257,797	259,947	311,046	
Totals	541.957	581.146	

The production of Bessemer pig iron in the first half of 1908 was 60,225 tons, against 81,887 tons in the last



A Powerful All Steel Shear Built by the Mesta Machine Company, Pittsburgh, Pa.

pany has received an order from the Indiana Steel Company for the next size larger shear, which is also to be built entirely of cast steel, and is to be driven by a 150-hp. motor.

The British View of the 1000-Ft. Tower.-Of the proposals for further New York buildings of record-breaking hights, and 900 and 1000-ft. towers, the London Times Engineering Supplement says: "On this side of the Atlantic it is difficult to conceive the state of the public conscience which allows and encourages the construction of lofty buildings which detract so much from the appearance of a city, which darken the streets by shutting out sunlight, and which offer no compensating advantages, for many of these high structures in New York and Chicago are not commercial successes. It may easily be shown by a few figures that the compressive strength of the steel of which the framework of such buildings is composed allows a much higher limit to the hight with a reasonable factor of safety than has so far been attained or suggested, but the increasing sections of the supporting columns to carry the enormous loads detract from the available floor area and therefore from the earning capacity. The chief limitation to hight is, however, the increased area absorbed by the system of elehalf of 1907 and 73,023 tons in the first half of that year. The production of basic pig iron amounted to 195,209 tons, against 179,854 tons in the last half of 1907 and 161,403 tons in the first half. The production of malleable Bessemer, foundry, forge, ferrosilicon, and other grades not enumerated above was 51,628 tons, against 49,305 tons in the last half of 1907 and 35,674 tons in the first half.

The production of coke pig iron in the first half of 1908 was 301,673 tons, against 306,772 tons in the last half of 1907 and 265,253 tons in the first half. The charcoal pig iron made in the first half of 1908 amounted to 4798 tons, as compared with 4124 tons in the last half of 1907 and 4847 tons in the first half. In addition, in the first half of 1908 and in the second half of 1907 small quantities of ferrosilicon were made by electricity.

On June 30, 1908, Canada had 16 completed blast furnaces, of which 7 were in blast and 9 were idle. Of this total, 13 are coke and 3 charcoal furnaces. In addition, 3 coke furnaces were partly erected, work on which was indefinitely suspended some time ago. In the first half of 1908 the number of furnaces in Canada actually in blast for the whole or a part of the period was 14, of which 11 used coke and 3 used charcoal.

Canada imports considerable pig iron, especially for

the manufacture of Bessemer and basic open hearth steel. In 1907 exports of pig iron to Canada from the United States alone amounted to 68,296 gross tons. Canada is also a large exporter of steel billets, slabs, &c., sending to the United States alone 64,898 gross tons in 1907.

The Republic Iron & Steel Company. Report for a Year Marked by Depression.

The ninth annual report of the Republic Iron & Steel Company, covering the fiscal year ending June 30, 1908, has been published in the past week. The gross volume of business naturally showed a large falling off, being \$18,693,881, as against \$31,227,423 for the year ending June 30, 1907, and \$26,196,439 for the year ending June 30, 1906. As will be seen in the comments of Chairman John A. Topping, there are some offsets to the unfavorable features, as a reduction of about \$2,300,000 is shown in current liabilities and the net quick assets are \$6,713,-821. The net profits for the year after deducting the maintenance charges of over \$1,000,000 and \$637,000 for depreciation and extinguishment, equaled 7 per cent. on the preferred stock and nearly 2 per cent. on the com-This showing was made on a volume of business approximately 54 per cent. of that of the preceding year. Thus, while tounage was reduced 46 per cent.. the profits were reduced only 421/2 per cent. The improvement in conditions in recent months is shown in unfilled orders on hand June 30 amounting to 63 per cent. of the tonnage on June 30, 1907, when this figure reached high point. The following statement gives a comparison of earnings, surplus, etc., with the showing of the previous year:

	A	
1908. Total profits\$3,046,619	1907. \$5,027,741	Decrease. \$1,981,122
Reconstruction, depreciation,	40,021,131	\$1,001,122
interest, &c	1,298,496	223,297
Net profit	\$3,729,245 1,429,183	\$1,757,825 357,296
Surplus	\$2,300,062 3,133,283	\$1,400,529 †666,711
Total surplus\$4,699,527	\$5,433,345	\$733,818
Charged off	*1,633,351	1,633,351
Surplus	\$3 799 994	18899 533

^{*} Arrears of dividends on preferred stock.

The condensed general balance sheet of June 30, 1908, is compared with that of one year previous in the following:

10111116.		
Assets.		
	1908.	1907.
Cost properties		\$53,092,153
Other investments	863,336	853,949
Cash deposited with trustees for re-		
demption of notes and bonds	2,895	577,995
Inventories	4,547,999	4,278,143
Ore contract payments (ore at Lake		
Erie dock)	800,906	******
Accounts and bills receivable	2,368,248	4,764,039
Cash	667,963	1,695,326
Deferred charges (mine work)	715,294	827,575
Totals\$	63,964,830	\$66,089,180
Liabilities.		
Common stock\$	27,191,000	\$27,191,000
Preferred stock	20,416,900	20.416.900
First mortgage gold bonds	8,546,000	8,625,000
Collateral trust 5 per cent. notes		563,000
Potter Ore Company bonds	345,000	350,000
Mineral extinguishment fund	706.738	584.544
Furnace relining fund	54,707	125,873
Fire and accident insurance fund	237,812	228,071
Contingent fund	95.850	199,206
Accounts payable	1,362,025	3,047,284
Ore contract balances	96,335	
Taxes accrued	103,365	75,078
Interest accrued	106.825	114,850
Dividend, preferred, payable July 1.	*2,746	768,380
Profit and loss surplus	4,699,527	3,799,994
Totals\$	63,964,830	\$66,089,180

^{*} Unclaimed preferred dividends.

The balance of net working assets on June 30, 1908, was \$6,713,821, as compared with \$6,731,917 on June 30, 1907, and \$7,974,044 on June 30, 1906.

Income and Profits.

Chairman Topping comments as follows on the financial condition of the company and the operations of the past year:

Your income figures for the year ending June 30, 1908. show severe declines as compared with the high mark of earnings recorded during the previous year. While normal earnings were realized during the first quarter of the fiscal year ending June 30, 1908, subsequent periods were seriously affected by the October panic, which caused complete paralysis of the company's business for approximately two months. This condition was followed by a slow business recovery, beginning in January with a volume of shipments approximately 25 per cent. of normal, the succeeding months showing a slow gain in volume to June, which recorded a maximum tonnage 52 per cent. of normal. While the volume of your business suffered seriously by the disordered condition of business generally, yet the iron and steel markets passed through the trying period of liquidation and readjustment in an orderly manner, due to the friendly co-operative efforts of the principal manufacturers, with the result that the large losses heretofore sustained during panic periods, both by producers and consumers, were avoided.

Notwithstanding the reduced volume of business, your manufacturing costs have not only been maintained, but show reductions as compared with periods of normal operations. This favorable showing has been influenced somewhat by the greater efficiency of labor and by general retrenchment, but is more largely due to the better physical condition of your properties and to a more nearly self-contained operation.

As a measure of this increased efficiency, you will observe that while your gross tonnage of business declined 46 per cent., your manufacturing profits were reduced but 42½ per cent., notwithstanding the reduction of profits due to lower selling prices for your commodities. Your total income for the year was \$3,046,618.84, and your net income was \$2,408,720.08. In determining your net income your usual policy of accounting has been followed, of liberal charges for maintenance, reconstruction, depreciation, extinguishment and inventory shrinkage. The amount absorbed for maintenance and repairs was \$1,000,071; reconstruction, depreciation and extinguishment, \$637,898.76.

After providing for interest on bonds and other charges there was appropriated for preferred stock dividends \$1,071,887.25, leaving a balance due on dividend account for the year of \$357.295.75. If the full dividend had been paid the net surplus over dividends, depreciation and extinguishment requirements would have been \$542,237.08. The actual amount carried to surplus, after deduction for dividends paid, depreciation and extinguishment requirements was \$899,532.83.

On the recommendation of your Executive Committee your Board of Directors deemed it wise to defer payment of the July 1 preferred quarterly dividend, because a provision in your general mortgage requires that your net quick assets shall be maintained at not less than \$6,500,000, while the uncanceled or outstanding amount of bonds is not less than the sum of \$6,500,000. Your committee was of the opinion that the net balance of quick assets could not be maintained at the required figure, under the then existing conditions of business, without suspending expenditures on account of improvements and development, or deferring dividend payments.

Plant and Properties.

The principal changes to your plant account were improvements and additions to your Sylvan works, Inland works, Republic coke works, Pioneer and Atlantic furnaces, and iron mines, both north and south. The principal changes in land account were the sale of the Mitchell Tranter works property. Terre Haute mill site, and for surface land acquired at Republic, Pa., for use in connection with your operations there. The additions to your property account during the year aggregated \$837,-142.71. A comparison with previous years is as follows:

Year ending June 30.	New construction.	Property	Property sold.*	Balance.
	2.021,168.58	\$196,997.17	\$365,390.69	\$51,053,393.53
1907	1.978,797.37	132,717.35	72,755.45	53,092,152.80
1908	837,142.71	298,992,13	230,098.61	53,998,189.03

^{*} Including amount written off for depreciation.

The distribution of total expenditures to June 30, 1908, is as follows:

1908, is as follows:
Northern District:
Blast furnaces\$2,542,968.21
Bessemer steel plant
Rolling mills
Coke plants 854,261.12
Northern mines 552,910.75
Total Northern District\$8,705,381.97
Southern District:
Blast furnaces\$1,718,603.49
Coke ovens at blast furnaces 176,917.54
Tenant houses at blast furnaces 58,077.25
Rolling mills 133,567.62
Mines and coke ovens 1.171.059.54
Limestone quarries
Total Southern District\$3,385,295.90
Grand total\$12,090,677.87

Blast Furnaces.

No new furnaces have been constructed in the year, but further improvement is to be noted by additions to equipment at Atlantic Furnace, Hannah Furnace and the reconstruction of No. 3 Pioneer Furnace, which it is expected will not only increase the output but bring about economies in production. The output of pig iron, owing to reduced demand, shows a falling off, but the percentage of loss is not as serious as in other products. Comparative figures are as follows:

Pia Iron Production.

					Gross tons.
Year	ending	June	30,	906	493,344
Year	ending	June	30,	907	614,954
Year	ending	June	30,	908	494,676

While increased output will be obtained by the improvements noted, no change in theoretical capacity is made:

														T	0	n	S 1	innually.
Northern	District			0		۰												650,000
Southern	District	 					 ۰	0			0				۰			250,000
Tota	1	 							 									900,000

Steel Works and Rolling Mills.

Further improvements have been made and are now under way, such as changes and additions to rail and sheet bar mill, which should increase output and reduce costs, and also allow greater flexibility of operations in the manufacture of semifinished steel products. The reduced production shown by the comparative tables following was due entirely to market conditions:

		Rails, sheet bars, slabs
	Ingots.	and billets.
Year ending	Tons.	Tons.
June 30, 1906	511,768	454,859
June 30, 1907	546,645	488,251
June 30, 1908	341,985	303,328

The work of concentration of plants has been substantially completed, and beyond liberal appropriations for betterments and reconstruction no noteworthy changes have been made during the year. Production shows a heavy shrinkage in tonnage, due entirely to restricted demand:

Finished and Semifinished Products.

	roductio														
Year	ending	June	30,	1908		0 0	 						434,2	230	
	ending														
	ending														
													Tons		

Iron Ore Mines.

Active work in exploring and developing your iron ore lands both North and South has brought about an increased output from mines and has also resulted in further additions to iron ore reserves. Additional expenditures have been recently authorized which, when completed, will increase the annual output of iron ore. You will observe from the following table that the year 1908 shows your record output:

																			U	r	e	p) ľ	oduction.
Yea	r en	ding																				(3	ross tons.
June	30,	1906.			 										0	 		0			0			970,106
June	30,	1907.			 		0		0	0		 	0											947,069
June	30,	1908.			 			×				 		×										1.025,460

Including the additions and allowing for depletion of iron ore lands by mining operations, the reserves of ore as estimated are indicated by the following comparative figures:

	North.	South.	Total.
Year ending	Gross tons.	Gross tons.	Gross tons.
June 30, 1906	22,870,755	49,041,800	71,912,555
June 30, 1907		89,041,800	120,598,300
June 30, 1908		88,685,439	124,113,235

Coke, Coal and Limestone.

The work of development at your Republic mine is complete and the output is now sufficient to operate the full complement of beehive ovens. The experiments reported in the last report as to washing Gans coal have been successfully concluded and a coal washing plant is now recommended. Your Southern mines are all in good condition and your coke production would have established new records had blast furnace requirements called for full operation. The following comparative figures are submitted:

															C	0	kε	3	p	re	oduction.
Year	end	ing																			Tons.
June	30.	1906.		 							 			 			۰	0			343,485
June	30.	1907.		 						0	 	0	٠	 				۰	0	0	521,561
June	30.	1908.		 					0		 	0		 							426,968

The 538 coke ovens in the Northern district (Gans, 138, and Republic, 400) have a capacity of 322,800 tons a year, and the 1010 ovens in the Southern district (Thomas, 910, and Warner, 100) have a capacity of 606,000 tons a year—a total of 928,800 tons for 1548 ovens.

No change is made in coal tonnage reserves except allowance made for mine depletion during the fiscal year.

	Coking.	Steam.	Total.
Northern	District13,350,928	12,500,000	25,850,928
	District, 91,760,807	81,203,400	172,964,207
Tota	105 111 735	93 703 400	198 815 135

Aside from the interest held in Northern stone quarries operated independent of your company, two quarries are directly operated in the South, the limestone lands being owned in fee simple, and your engineers estimate the stone reserves at 31,546,800 gross tons.

Labor and Employment.

The total expenditure for labor in the year was \$5,832,631, as compared with \$8,686,604 in the preceding year and \$7,735,903 in the year ending June 30, 1906. The average number of men employed at Northern works was 5895 in the fiscal year, as against 10,679 and 9065, respectively, in the two preceding years. The average number employed at Southern works was 2652, as against 3216 and 2600, respectively. The average number at all works was 8547, as against 13,895 and 11,665, respectively, in the preceding years.

With reduced demand for iron and steel, the market values of products suffered declines, and to assist in bringing about lower costs to meet the change in business conditions labor schedules were generally revised. Your committee is gratified to say that reduced labor rates were put into effect without disturbance to your amicable relations with labor, except at the Alabama mines, where a part of the miners are out on a strike, but no serious interference to operations has resulted, and full operation South is anticipated in a short time.

Unfilled Orders.

The statement of unfilled orders on hand reflects recent improvement in demand for pig iron, bar iron and steel products. As compared with the two preceding years, the following figures will be of interest:

Finished and Semifinished Products.

June	30,		19)()(3	0		0				0				۰							0	0		0		0	0	0	۰	0	0	0	0		0	377,349
June	30,		15)()	7									0						 0		0		0	0	0	0		0						0	0	0	448,627
June	30,	1	1)()8	3		*		×			*	*	×	×			. ,			<				*				*						×			283,743
																	1	12	i	1	li	re	01	n.															
																																							74 607
June	30,	1	15)()	7		٠			0	0										n						0				4							74.500
June	30.	1	1)(98	3																					_												59,196

Since the first of July, 1908, order bookings have added substantially to the totals herein reported so that total bookings offer the most substantial hope that normal production will be realized within a reasonable period.

John George & Sons, Ltd., whose offices were at 18 Great Alie street, have removed to Norfolk House, Laurence Pountney Hill, London, E. C., England.

The Salesmen's Prosperity Convention.

The United Commercial Travelers of America and the Travelers' Protective Association held a joint convention in New York City August 14 and 15 for the purpose of promoting the growth of confidence and hastening the return of prosperity. The convention was officially designated the Commercial Travelers' Interstate Congress. The attendance was large, all sections of the country being represented. The opening session or reception was held in the rooms of the Merchants' Association and the business session in the assembly hall of the Metropolitan Life Insurance Building. Herman A. Metz, Comptroller of the city, president of the congress, presided at the reception. Patrick F. McGowan, the acting Mayor, made a short speech, welcoming the delegates. This was responded to by C. W. Rice, national traveling representative of the United Commercial Travelers. Some of the other speakers at the reception were J. C. Klinck, secretary of the Northwestern Traveling Men's Association, who told of the returning conditions of prosperity in the section covered by the organization; Henry O. Gray, national president of the Travelers' Protective Association; Col. John S. Harwood of Richmond, Va., chairman of the National Legislative Committee, who spoke on commercial travelers' organizations.

At the business session addresses were made by Henry Clews, the New York banker; George Fred Williams of Massachusetts, and a number of others. The most interesting of these addresses was that made by E. C. Simmons, the veteran hardware merchant of St. Louis. who was introduced by Mr. Metz as the man "who has employed more commercial travelers than any other employer in the United States," and discussed the relation of commercial travelers to prosperity. Mr. Simmons gave it as his belief that the traveling men are the best "can talk better than a traveling man. Would it not be strange, indeed, if he did not master the capacity of speech?" Mr. Simmons read telegrams advance agents of prosperity. "Nobody." he averred. tions of the country, all of which tended to substantiate his assertion that prosperity has arrived. Following are some extracts from his address:

Remarks by E. C. Simmons.

The message we want you to carry to the merchant—and the message we want you to convey to the farmer, through the merchant—is that fundamentally conditions are all right. There is nothing in the world to interfere with a return to a full measure of prosperity quickly—and by that we mean not later than December 31, 1908—except the restoration of confidence, which was so badly shattered—in fact, I may say so "everlastingly smashed"—by the panic of the fall of 1907. Tell them that good times have returned in great measure in that great productive and constructive region of the Southwest—represented by Missouri, Arkansas, Oklahoma, Texas and other cotton-growing States. I doubt if the manufacturing interests of Pennsylvania, New York and New England realize how great a measure of prosperity has returned to us in the Southwest; and, gentlemen of the East it is traveling your way, and traveling mighty fast. Don't stay in your house and wait for it to knock at your door, but go out into the road and meet it half way—grasp it by the hand and invite it into your homes and firesides. through the merchant-is that fundamentally conditions invite it into your homes and firesides.

Think over the results of the panic, and you will realize that the agricultural sections have been touched very lightly indeed; the bad effects of the panic in that part of the country devoted to agriculture have been so trifling that tocountry devoted to agriculture have been so trifling that to-day it is but a memory and no longer has existence in fact. The effects are largely in the manufacturing and cotton-growing districts—the second of which is now recovering with marvelous rapidity. Tell them that the price of farm products has been kept up by the buying power of the laboring classes and especially railroad employees. This class of people are the greatest spenders we have among us. When they have full employment at big wages, they live well and spend their money freely.

well and spend their money freely.

Tell the people that you meet that the railroads are the greatest buyers on the face of the earth; that last year their purchases of raw material and manufactured products amounted to one and one-fourth billions of dollars; that the deficit in their purchases for the first half of 1908, as compared with the corresponding period of 1907, was about \$500,000,000, and until they begin to buy again we cannot \$500,000,000, and until they begin to buy again we cannot and will not have a full measure of prosperity. Tell them and will not have a full measure of prosperity. Tell them that they purchased 35 per cent. of all the manufactured products of iron and steel last year, and 25 per cent. of all the lumber that was cut, and that out of every dollar they have received in the way of earnings they paid out 43 cents in the way of wages to their employees. Tell them that the railroads are the greatest friends of the laboring man-and especially are they the greatest friends of the farmer there are in the world.

Tell the people not to condemn 100 per cent. of the railroads because 10 per cent. of them have been guilty of sharp practice or crooked work; tell them not to "burn down their barns trying to smoke out a few rats"; tell

them to stop "rocking the boat."

Try to think of all the good things you can say about the railroads and their value to the community at large, and not speak of their shortcomings, which in the past have been many. I think the people of the United States deserve the best railroads in the world. They already have the best paid employees and the lowest rates.

Just a word on the subject of advance in freight rates. We are opposed to that at present. We believe the time is inopportune. All interests have suffered alike—manufacturinopportune. ing, jobbing, general distributing and railroad interests. is no more than fair to ask that they bear with us the burdens brought on by the panic for a while longer, to see hether the enormous increase in business-which we believe is now at our very threshold—will not help them to an extent that will render it unnecessary for any advance in freight rates; and we should wait until about December 1 to test this question.

The congress, by formal resolution, put Itself on record as favoring any measure which will give employment to those out of work. The preamble and resolution adopted unanimously set forth that the commercial depression was caused partly by a lack of confidence in the managers of the common carriers and the lack of an adequate banking system. The resolution pledged the congress to work for the passage of amendments which will enlarge the powers of the Interstate Commerce Commission. Currency legislation is favored with a view to the establishment by law of a guarantee fund. It was recommended that prosperity conventions be held in the several States or groups of States as may be most convenient. Provision was also made for the employment of a permanent secretary in New York City to further the aims of the congress.

The convention closed with a banquet at the Manhattan Hotel, at which addresses were delivered by excellent speakers representing various sections of the coun-

The Dunbar Furnace Company's Varied Interests.

Few blast furnace plants in the United States combine modern equipment and progressive management with so long a record of practically uninterrupted operation as that of the Dunbar Furnace Company, Dunbar, The company has two stacks, with a capacity of 250 to 300 tons a day each, and produces foundry, forge, malleable, car wheel and basic iron. The first furnace was put in blast in 1791, and with the exception of the intervals of rebuilding and the interruptions due to relining there has been a constant production of pig iron in the interval of 117 years. One of the two furnaces has been kept in operation through the present depression, and is still going. The company was one of the first to introduce by-product coke ovens, and uses exclusively in its furnaces the product of its 110 Semet-Solvay retort ovens, which with the recovery plant are located near the furnaces. Coal comes from the company's two mines situated in a valley one on either side of the coke ovens. An allied interest, the Dunbar Electric Company, furnishes power and light throughout the plant, also in the subway in which ore is handled and in addition supplies light for the town of Dunbar. Another industry controlled by the company is the manufacture of silica sand, the capacity being 600 to 700 tons daily, from crushed, screened and washed silica rock quarried from a large deposit in the hills above the sand mills. company is interested also in the Continuous Glass Press Company, which employs about 100 men. The fuel for the latter company is the surplus gas from the Semet-Solvay ovens, and the sand for glass manufacture comes from the sand plant which, like the coke ovens, is only a stone's throw from the glass works.

At the blast furnaces, coke ovens, coal mines and

sand mill about 700 men are employed. The Dunbar Furnace Company owns in and around Dunbar approximately 8000 acres of land, on which are coal, iron ore, limestone, sand rock, clay, bluestone and timber. It has 159 tenement houses occupied by employees. The water supply for the furnaces, ovens, mines and glass works comes from Dunbar Creek, a few miles distant in the mountains, where four large reservoirs are located. The sand mill has a reservoir water supply of its own from Irishtown Run, another creek in the mountains. The furnace company's railroad, the New Haven & Dunbar, has 12 miles of track connecting with mines and quarries. The blast furnaces are equipped with a pig casting machine, and the accessory plant consists of four blacksmith shops, a carpenter shop, machine shop, boiler shop and foundry.

The evolution from the original stack at Dunbar to the present modern plant is interesting. The first furnace was built in 1790 by Isaac Meason, and was put in blast in March, 1791. It was known as Union Furnace, and was located about 300 yards up the Dunbar Creek from the site of the present stacks. It was a small affair, built of stone and was the second blast furnace built west of the Alleghenies. In 1793 Isaac Meason and Moses Dillon enlarged the furnace and established a forge near by, also building a forge at the mouth of Dunbar Creek, In 1816 they established in Fayette County, northwest of Dunbar, the second rolling mill west of the Alleghenies and the first to puddle iron and roll iron bars. In those days the Fayette County product was hauled across the country either to the Yioughiogheny or the Monongahela River and loaded in flat boats for shipment to Pittsburgh. In 1844 the firm of Jones & Miller owned Union Furnace. By them it was sold to D. Creigh, who changed the name from Union to Dunbar. At this time it made only about 2 tons of pig iron a day and employed eight Charcoal was used exclusively as fuel, until 1854 when Baldwin & Cheny became the proprietors and introduced the use of coke. The output was increased to about 10 tons of iron a day. In 1865 the Yioughlogheny Coal & Iron Company changed the location to the present site and built a stone stack with a capacity of 17 tons a day. The Dunbar Iron Company acquired the property in 1866, rebuilding the stack and making improvements. The present Dunbar Furnace Company became the owner in 1876, and the plant underwent extensive improvements. Other betterments have been made from time to time since. The present 80-ft. stack, with skip hoist, was blown in in November, 1906. The other stack, also 80 ft. high, now out of blast for relining, was built in 1900.

The Tod-Stambaugh Company's Ore Development. -The contract for the engineering work in connection with the power plant, surface works and equipment for the new mining property that will be developed by the Tod-Stambaugh Company at Hibbing, Minn., in the Mesaba Range, has been awarded to John W. Seaver, consulting and contracting engineer, Cleveland. He will receive bids soon for the mechanical equipment. In the power plant there will be installed boilers aggregating 900 hp., electric generators, a steam hoisting engine, air compressor, water supply pumps, and tank, &c. system of locomotives and cars will be installed in the mine. It has not yet been decided whether to use electricity or steam for the motive power for the cars. The shaft house and bins will have automatic dumping skips, shields, &c. The work of sinking the shaft is in progress at present. It will have a diameter of 21 ft., with reinforced concrete casing. The buildings will be of concrete and steel. It is the intention of the Tod-Stambaugh Company to try and make its new mine the best equipped mining property in the upper lake region. It is expected that it will be ready for operation in about a year.

The Lima Locomotive & Machine Company, Lima, Ohio, has received orders for extensive repairs on a number of Wheeling & Lake Erie locomotives, several of which are now being shipped to Lima. The total number of engines to be repaired will depend on conditions at the railroad shops and the Lima plant, and may be as high as 40.

Trademarks in Japan and Chile.

Janan.

Information has been received at the Department of State by cablegram from the American Embassy at Tokyo that the Japanese Government has ratified the trademark treaty between the two countries, which included features in regard to goods in Korea and China. The Department of State impresses upon Americans that in Japan the system is priority of registration and in the United States a priority of use, and that the Japanese is the one in use in a majority of countries; consequently, every American who wants protection for his industrial property in China, Japan and Korea should register at the earliest possible moment at the Tokyo patent office.

Japan is disposed to recognize priority of use by a liberal interpretation of the existing laws, such as by refusing to entertain wrongful registration and by even going so far as to cancel registrations previously made. An American whose trademark or other such right has been pirated should lose no time in seeking registration and in moving for the annulment of the wrongful registration from which his business is suffering.

Chile.

Consul Alfred A. Winslow of Valparaiso gives the essential features of the Chilean laws governing trademarks in that country, and urges registration by American manufacturers. He says that American manufacturers are losing much in Chile, and will find themselves badly crippled when they get into that field in earnest after business because they have not registered their trademarks or the names given their special brands of goods. Attention should be given this matter, because as the different American goods become better known the greater will be the temptation to take an unjust advantage. Any person may register a trademark in Chile, even after a certain brand of goods has been in the Chilean market for several years, and thus drive the original maker of the goods from the country, unless the brand or trademark was registered in time. He gives a translation of the Chilean law now in force bearing on these matters as follows:

- A register is open for the registration of trade and com-
- mercial marks, both national and foreign.
 2. The name "trademark" is used to designate the marks placed by the manufacturers or producers on manufactured articles, either Chilean or foreign, while the name "commercial mark" designates the mark placed on the articles by the merdesignates the mark placed on the articles by the mer chant who sells them.
- Proper names, emblems or any other signs adopted by a manufacturer or merchant to distinguish the article he makes or sells will be considered as trade or commercial marks. In n, they must carry the inscription, "Marca de Fabrica." initials "M. de F.." or "Marca Commercial" (M. C.)
- or the initials "M. de F.," or "Marca Commercial (M. C.)
 4. The name given a country estate, foundry, factory or mill shall be the exclusive property of the owner of the said estate, foundry, factory or mill.
- The person registering a trade or commercial mark has
- the sole right to use the same.
 6. Transfers of marks, or permission that may be given to others to use said marks, must be noted in the register and advertised for 10 days in the newspapers.
- 7. Registration must be renewed after 10 years, otherwise it
- 8. The register referred to will be opened in the office of the National Agricultural Society, under the direction of the president of the society and a delegate named by the council, who must be a member of the Board of Directors of the society.
- The entry in the register must state the day and hour in which the entry is made: the name of the proprietor, his name and domicile; the name of the place where the factory is name and domicile; the name of the place where the factory is established; the class of goods or commerce designated by the mark, and a facsimile of the mark. To this must be added the number of the order that corresponds to the mark deposited, and any other data that may be thought necessary. Both the register and the copy thereof given to the interested party must be signed by the president of the agricultural society or his deputy, by the interested party, and two witnesses.

 10. A fee of 12 pesos will be paid to the society for the entry of a trademark. 3 pesos for a commercial mark, and 1 peso for an authenticated copy of the inscription.

 11. Any person falsifying or making fraudulent use of a
- 11. Any person faisifying or making fraudulent use of a trade or commercial mark spoken of in the present law will be
- subject to the penalties prescribed by the penal code.

 12. Articles bearing false marks will be confiscated for the benefit of the injured party, while the instruments of falsification will be destroyed.

 13. A list of the marks registered will be published in Au-
- gust of each year.

THE IRON AGE

Established in 1855.

New York, Thursday, August 20, 1908.

Entered at the New York Post Office, as Second Class Mail Matter.

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	-		-					

The Position of the Jobber.

In at least two ways the question of the iron and steel jobber's relation to the market has had consideration from the manufacturers in the present depression. At the beginning of the concerted movement to maintain prices one argument against reduction was the fact that jobbers were loaded up with stocks bought at the prices maintained during the boom, and would suffer heavy loss if the market were not held until these could be worked off. The argument had its weight, and for more than six months after the panic the steel manufacturers maintained a position which, while not primarily designed as a protection to the jobber, operated very effectively to that end.

When the price reductions came the position of the jobber again entered into the councils of the manufacturers. Some questions arose as to the treatment accorded large jobbing interests by certain manufacturers, and as an important part of the readjustment in the prices of bars, structural material and plates, an effort was made to define, in a way never attempted before, the status of the jobber in these lines. The maintenance of a warehouse from which the orders of his customers are filled was made the prime requisite to classification as a jobber. The particularly revolutionary feature accompanying this action is that only on shipments from mill to the jobber's warehouse does the latter obtain any concession. Shipments direct from mill to the consumer are treated as business belonging to the manufacturer, and whereas a number of important jobbers have long had customers whose orders were handled in this way, there is now no room left for a jobber's profit on this business. That the jobber's margin in times past has now and then been divided with his large customer, so that the latter has had a lower price than the mill would give him, may be taken as a partial explanation of the change. On shipments made to the jobber's warehouse and there rehandled the margin allowed under the new arrangement is not such as to pay handling and leave a profit, unless a store price is charged the consumer.

The broker, it is evident, is given no standing in the new adjustment. In fact the policy of the manufacturers has been such in recent years as to leave less and less room for the middleman who had no distributing organization behind him. With their highly organized sales department the manufacturers of steel take the position that the intervention of such a third party on business handled directly from the mill either argues that weakness exists in their own selling mechanism or that the customer is taking this method of securing a cut from the mill price. The prediction made when the

large consolidations were launched that they would seek to do all business directly with the consumer, has been borne out, so far as mere brokerage is concerned. On the other hand, there has been no failure to recognize the important place the jobbing interests occupy in the machinery of distribution. The leading houses of this class are plainly stronger to-day than at any time in their history. Thus far the give and take spirit has sufficiently dominated the relations of manufacturer and jobber to insure peace and co-operation. The recent action of the manufacturers in restricting somewhat the field of operations of the important jobbers may be better received in view of the manufacturers' action in standing behind the jobbers' market after the panic. Moreover, the shortening to three months of the jobbers' contract period on bars, structural shapes and plates may tend to a more orderly recovery as the market emerges from depression, saving the mills from the competition of jobbers' stocks bought at the lowest prices.

But time and the test of a nearer approach to normal business must demonstrate how far the new regulations will go toward establishing the relations of jobber and manufacturer on a basis of mutual satisfaction and profit.

Commodity Rate Advances.

The railroads have encountered so much opposition to the proposed advance in class rates that they have turned their attention to commodity tariffs, and a long list of commodities has been "checked" for advances in the territory of the Eastern trunk lines and the Central Freight Association, as well as on Western lines. This movement will affect the manufacturing interests more directly than an advance in class rates.

The class rates usually apply on the outgoing products and distribution through the wholesale trade, the charges being paid ultimately by the consumer. Nearly all the materials used in manufacturing are carried at commodity rates. The freight is paid by the manufacturer as a part of his cost of production, and it is not always possible to add any increase in the charge to the selling price. Many shippers assert that one of the underlying causes of the present business depression was the increase in factory costs that preceded it, carrying prices beyond the limit which the majority of consumers could afford to pay; and they are disposed to contest any increase in commodity rates, as an additional item of factory cost, at a time when every effort is being bent toward a reduction in cost.

A change in a commodity tariff as a rule affects only one industrial group of shippers, who cannot make a contest that will awaken any public interest. A large number of commodity tariffs affecting isolated groups of shippers, can be changed without bringing together any united opposition, such as can be concentrated on a proposal for a general advance in class rates.

As an example, the commodity rate on cast iron pipe north of the Ohio River will be advanced 25 cents per ton September 15. This follows a similar advance of 40 cents per ton last year, making a total increase of about 40 per cent. on one commodity. An extensive list of commodity tariffs will be advanced in the same quiet manner.

The Western roads have encountered a more stubborn obstacle than public opinion to any advance in their class rates. The Missouri distance tariff, established by State authority, fixes the maximum rate across the State from Hannibal to St. Joseph. This rate is the basis of the interstate tariffs of all the Western roads between the Mississippi and Missouri rivers, and other roads can-

not raise their rates without leaving a low competitive gateway open through Hannibal—an impossible situation. In the same manner the Transcontinental lines have stubbed their toes on the Spokane case, which is pending before the Interstate Commerce Commission and is not likely, according to unofficial reports, to be decided in the near future. The Western roads have therefore decided to confine their efforts to commodity tariffs.

Reciprocal Rights of Employer and Employed.

Inability to recognize what are the reciprocal rights of employers and employees is one of the weaknesses of those who are supposed to represent the "appeal to reason" of the trade union position. For example, the *Iron Molders' Journal* says this:

No one is entitled to special privileges; every man is entitled to equal justice before the law. When the time arrives, as it has to-day, that our courts declare that an employer has every right to discharge his union employees, but that the union men cannot strike against the introduction of nonunion conditions; that the employer has the legal right to advertise the fact that he will not employ union men, while the trade unionists are forbidden to tell their friends that they do not patronize the product of a certain firm, the time has arrived to do serious thinking, and to take definite action.

What is the right of union labor that corresponds to the right of an employer to discharge his union employees? Plainly, it is the right to refuse to work for any but an employer who recognizes the union and employs exclusively union men. And what court has ever denied the right of union men to strike against nonunion conditions? It is not the denial of its right to strike that the union has complained of, but the denial of its right by threats and violence to compel nonunion men to cease working where union men have struck and to compel employers to cease operating their shops with nonunion men. If such compulsion is a "right" of labor which the courts must recognize, then the corresponding "right" of the employer who objects to union men is to use every means to compel employers of union men to discharge them and to compel all union men who may have taken places vacated by nonunion men to give up their jobs.

Passing to the second of the contrasts presented in the above, we have the right of the employer to employ whom he chooses set over against the "right" of labor union men to wage war against a business and its products with the purpose of destroying its trade. The right of the union which corresponds to the right of the employer to reject union applicants is to refuse employment and to require its members to refuse employment in any shop not operated under union rules. The courts have not denied the right of unions to publish the fact that certain shops were "struck" shops, or to instruct their members to remain away from them. A conspiracy to ruin a business by coercing the public to abstain from buying its products, and for no other reason than that the owners choose to operate their works without subscribing to the rules and regulations of a labor organization—that is a very different kind of "right."

It is the labor union habit to scorn as "academic" the rights of labor which the courts of justice have set out as corresponding to those which the same courts have guaranteed to employers. The trouble is there is no place in these "academic rights" for violence, conspiracy and coercion. The labor union is the one organization in the United States which insists on the "right" to force its decrees upon others by the use of any means it may select; and, further, if there be any laws or court decisions which stand in the way, their operation must be suspended in any and all cases of labor disputes. That is the gospel of labor union "rights" in a nutshell.

The Productive Hour System of Burden Costs.

Nothing in the consideration of manufacturing costs is attracting as much attention at this time as the apportionment of overhead or general expense, or burden, among the manufactured product. Conspicuous in deliberations where expert knowledge is brought to bear on the subject is the argument in favor of the average productive hour as the more correct method. The National Machine Tool Builders' Association has given great prominence to this element of the question in its preparation of a model cost system that shall be comprehensive yet simple in the effort to procure the universal adoption of this all important feature of industrial management to the end that the market may not be disturbed by the presence of low-bidding competitors who are misled by an exaggerated notion of the cheapness of their product. Manufacturers as individuals are paying closer attention to overhead costs in the knowledge that they may be upsetting the exactness of their system through the absence of an equitable distribution of a large part of the expense of conducting their business.

In the average productive hour system the entire overhead cost for a given period, comprising all expenses except those of raw materials and actual productive labor, is divided by the total number of productive hours. The result of the division is a fixed sum which is added to every productive hour of the works, or, if the burden is distributed between departments in varying amount, to every productive hour of the department. It does not matter what wages a workman receives; the addition for overhead cost is always the same for every hour worked by an employee in producing. If the total number of hours worked by all employees in a plant in the period covered was 10,000 and the overhead expense for the same time was \$2000, the average would be 20 cents, and this amount would be added for every hour of productive labor worked in the establishment, until the books should again be balanced and a new average obtained.

The more common system has been to find the relation of the total of overhead expense to the total productive labor account and then add the percentage obtained to all productive labor. If the productive labor expense is \$10,-000 and the total overhead \$5000, then 50 per cent. is taken as the overhead for all labor, regardless of whether it is skilled or unskilled, working at a cheap or an expensive machine or at the bench; or on cheap or expensive products. The exponents of the average productive hour method assert that the percentage basis cannot be a fair one, especially if there is any variation in products. They cite such examples as this: Suppose that Workman A receives 40 cents an hour and works a 10-hr, day at a bench, while Workman B at 15 cents an hour works his 10 hours on a machine consuming a large amount of power and representing a considerable investment. The percentage system would not distribute the overhead expense fairly, for 50 per cent. added to A's job would be \$2, while to B's would be added only 75 cents, though the machine work should certainly be given at least as large a share of the burden as the bench work. Under the average productive hour system each man's job would have \$2 added to its cost, at 20 cents an hour overhead, which in this instance would be a much fairer distribution of the burden. Again, two employees may be operating lathes, one a 10 cents per hour boy, and the other a journeyman at \$3 a day. Under the percentage system, at 50 per cent.. the boy's work would have but 50 cents added to its cost. while the man's would have \$1.50. It is easy to see that the average productive hour basis would work to better advantage in such a case.

Of course no apportionment of overhead expense can be scientifically exact; in fact, there is no necessity that it should be. The purpose is to get it sufficiently close, so that there shall be no wide discrepancy. In either system the burden is taken care of, but the trouble may be that one product carries too great a share and the other too small, which in the extreme case brings one back to the days when the modern cost system had not been developed. Under the old system, or rather lack of system, the manufacturer had his total payroll and his total for raw materials, and the balance of expenditure constituted his overhead cost, but he did not know what any one thing cost for productive labor, nor how much time it consumed in manufacturing. He simply added a fixed amount to everything to cover burden and profit. Margins of profit were wider, and it did not make so much difference if one article was sold close to cost while another brought excessive profits, a condition which is usually ruinous to-day, for it would mean the securing of business in some lines without a profit and the failure to meet competitors in the market on the too high priced goods. On the other hand, there may be extremes of accuracy which are costly because of the expense involved in maintaining them.

Overhead costs should be fairly apportioned, so that all classes of products may share equally in them. In many works this means divisions of this expense into two items—one the general expense that applies to the entire works, and the other the expense which applies to each individual department and not to the others, variations of this sort sometimes being very important. Refinements and adaptations have to be worked out to meet the requirements of different industries, no two establishments having exactly the same problems to meet in this respect. The most important element to consider is the basic principle upon which the system shall be built up. If of the two accepted methods of apportioning overhead expense one is the more accurate and at the same time no more expensive of installation and maintenance, then of course it is wisdom to select that which will be the more effective. There may be some difference of opinion as to the relative merits of the two systems, but at the present time the average productive hour is growing in favor among the experts.

Improvements at Hokendauqua.—This week the Thomas Iron Company, Easton, Pa., will blow in the remodeled No. 1 furnace at Hokendauqua, it being expected that the furnace will make 300 tons per day. No. 3 furnace, which is also being rebuilt, will be completed ready for blast the latter part of the year. The two new furnaces are equipped with steel stock bins, incline hoists and automatic filling tops, the No. 1 furnace being 82 ft., and No. 3 furnace 85 ft. high. The entire improvement was designed by the Brown Hoisting Machinery Company, Cleveland, Ohio. There are 10 ore and 10 fuel and limestone bins, the material being conveyed to the incline hoists by an electric larry. In addition to these two modern furnaces, the Hokendauqua plant has two older furnaces, Nos. 5 and 6, with a weekly capacity of 1200 tons. In all, at its different works, the company has nine blast furnaces on the active list.

The Thomas Furnace Company, Wilwaukee, Wis., has torn down its old stack and expects to blow in its new 18% x 80 ft. blast furnace in September. The new plant includes a Mullen gas washer, a device for bringing ore and limestone from the dock to the furnace and new railroad trestles. The company has purchased a piece of land south of Milwaukee to be used as a storage yard, as the ground at the furnace affords storage room for only 3000 to 4000 tons of pig iron. A locomotive crane has been purchased for the handling of pig iron.

The National Enameling & Stamping Company.

The income account of the National Enameling & Stamping Company for the year ended June 30, 1908, with comparisons, is as follows:

1908. Profit \$311.8			
Interest on bonds 52,21			12,369
Preferred dividends 598,2	32 598,262		
Balance *\$338,63 Previous surplus 1,648,60			\$1,379,209 790,555
Total surplus\$1,309,94	9 \$1,898,603	Dec.	\$588,654
reserve 250,0	250,000		
Profit and loss surplus . \$1,059,94	9 \$1,648,603	Dec.	\$588,654

* Dericit.

The amount to the credit of general reserve on June 30, 1908, was \$1,500,000, which, added to the profit and loss surplus as above, makes the total undivided profits on June 30, 1908, \$2,559,949.

The report states that the plants of the company have been kept in the highest state of efficiency throughout the year, and the cost of maintenance has been charged against the profits. The decreased earnings of the company during the past year, as compared with previous years, are entirely attributable to the unusual and general business depression which was first felt in July, 1907, and continued down to June 30 last. Consequently, the plants of the company have not been operated to their full capacity.

The balance sheet as of June 30, 1908, compares as

TOHOUS.	4000	2000
.188ets.	1908.	1907.
Real estate, merchandise, plant, &c	. \$24,647,367	\$24,548,687
Stocks, merchandise and material or	n	
hand	. 4,198,682	5,392,782
National Enameling & Mfg. Company o	f	
Louisiana	. 139,246	129,746
Accounts and bills receivable	. 718,360	1,203,260
Adv. pay	. 104,334	101,676
Cash	. 752,805	336,364
Totals	.\$30,560,845	\$31,712,517
I.iabilities.		
Preferred stock	. \$8,546,600	\$8,546,600
Common stock	. 15,501,800	15,501,300
First mortgage bonds	. 1,000,000	1,250,000
Accrued interest		20,833
Bills and accounts payable	. 2,696,263	3,255,114
Dividends	. 149,665	149,565
General reserve account	. 1.500,000	1,250,000
Profit and loss surplus		1,648,603
Totals	.830.560.845	\$31,712,517

At the annual meeting held in Jersey City, August 11, Albert W. Niedringhaus was elected a director to succeed his father, William F. Niedringhaus, deceased, and Oliver Neidringhaus was elected a director to succeed his father, Alexander Niedringhaus, resigned, Otherwise no changes were made in the directorate.

The new directorate of the company has made the following changes: F. G. Niedringhaus, formerly president, becomes chairman of directors, while F. A. W. Kieckhefer, former first vice-president, succeeds him as president. Thomas K. Niedringhaus becomes first vice-president, and George W. Niedringhaus becomes second vice-president. George V. Hagerty succeeds F. G. Niedringhaus as a member of the Executive Committee. An Advisory Committee to the Executive Committee has been created, consisting of George W. Niedringhaus and A. M. Steinhardt.

The Jamison Coal & Coke Company, Frick Building, Pittsburgh, has invited the members of the Pittsburgh Foundrymen's Association to visit its works on the Crab Tree branch of the Pennsylvania Railroad, near Greensburg, Pa., to witness the operation of making foundry coke. The party will leave Union Station, Pittsburgh, at 9 a.m., on Monday, September 7, and lunch will be served on the return trip at Greensburg, Pa. The Jamison Coal & Coke Company has a very complete plant at the above place, and in addition has several other plants in the Greensburg District, being one of the largest makers of furnace and foundry coke.

The Production of Coke in 1907.

Construction of By-Product Ovens Falling Off Markedly.

Washington, August 18, 1908.—The production of coke in the United States in 1907 was 12.02 per cent. greater in quantity and 21.76 per cent. greater in value than in 1906, according to the annual report of the United States Geological Survey, prepared by E. W. Parker. Ordinary gas house coke obtained as a by-product in the manufacture of illuminating gas is not considered as coming within the scope of this report. Owing, however, to changes taking place in the last few years it is not possible to confine the term "coke" to that which is used exclusively for furnace or foundry purposes. Where retort ovens are used coke is sometimes the primary product, and is strictly metallurgical fuel. In other cases gas, either for illuminating or fuel purposes, is the primary product and coke becomes the secondary product, some of it being used in metallurgical establishments, while some goes into other manufacturing, railroad or domestic trade.

New By-Product Ovens Decreasing.

From 1893, when the first plant of 12 by-product ovens was completed by the Semet-Solvey Company of Syracuse, N. Y., to the close of 1904, there was a noteworthy increase in the construction of retort or byproduct ovens in the United States. In the last three years, however, there has been a decided falling off in the number of new ovens built or contracted for. On December 31, 1903, 1335 product ovens were under construction, 832 in 1904, 417 in December, 1905, while on-December 31, 1906, the number had fallen to 112. On December 31, 1907, there were 330 new retort ovens under construction, 280 in Illinois and 50 in Ohio. When the enormous waste which attends the manufacture of coke in beehive ovens is considered, the relatively small development of the retort oven industry in the United States is difficult to understand. The value of the by-products (gas, tar and ammonia) of retort ovens in the United States in 1907 was \$7,548,071, obtained from the distillation of 7,460,587 tons of coal. The quantity of coal made into coke in beehive ovens in 1907 was 54,485,522 tons. At the same ratio the value of the gas, tar and ammonia wasted in the beehive oven practice in 1907 would have amounted to over \$55,000,000.

Production.

The total production of coke in the United States in 1907 amounted to 40,779,564 net tons, valued at \$111,539,126, against \$36,401,217 tons, valued at \$91,608,034, in 1906. The production in 1907, as in 1906 and in 1905, passed all previous records in the history of coke making in the United States. The increase in 1907 over 1906 was 4,378,347 tons in quantity and \$19,931,092 in value. The average price per ton at the ovens advanced from \$2.52 in 1906 to \$2.74 in 1907, this last being the highest price reported in the 28 years the statistics have been compiled by the Geological Survey.

Of the total production in 1907, 35,171,665 net tons, or 86.25 per cent., was produced in beehive ovens, against 31,843,000 tons of beehive coke in 1906. The production from retort or by-product ovens in 1907 was 5,607,899 net tons, or 13.75 per cent. of the total, against 4,558,127 net tons, or 12.52 per cent. of the total in 1906.

Coal and Coke Values.

In the case of large corporations producing coke for their own use the value of the coke shipped from one department to another is sometimes arbitrarily fixed. In other cases ruling market prices determine. The quantity of coal consumed in the manufacture of coke in 1907 was 61,946,100 net tons, valued at \$72,784,851. The value of the coke produced from this coal was \$111,539,126, a difference of \$38,754,275, which represents the profits on the coking operations less the cost of manufacturing and the expenses of administration and selling. In 1906 the value of the coal used was \$62,232,524 and the value of the coke produced was \$91,608,034, a difference to cover all expenses of manufacture, administration and profits of \$29,375,510. So marked was the decline in prices

after the panic that Connellsville furnace coke, which in the first part of the year had been selling for \$3.50 to \$3.75 per net ton, sold for \$2 to \$2.50 in November and December, while foundry coke, which had ranged from \$4 to \$4.50 in the first part of the year, sold for \$2.50 to \$2.75 at the close.

Ovens in Operation.

At the close of 1907 there were 99,980 coke ovens in the United States, against 93,901 in 1906, an increase of 5779. Of the total ovens in existence in 1907, 4934 were idle during the entire year, leaving 94,746 active ovens, which produced 40,779,564 net tons of coke, an average of 430.4 tons per oven. The 88,596 active ovens in 1906 produced 36,401,217 net tons of coke, an average of 410.9 tons per oven. The idle ovens in 1907 included 81 retort ovens, of which 56 were the bank of Newton-Chambers ovens at Pocahontas, Va., which have never been operated to any extent. The total number of byproduct recovery ovens in existence at the close of 1907 was 3892. The average production from the 3811 active retort ovens was 1472 tons. The total number of active beehive ovens in 1907 was 90,935, and the total production of beehive coke was 35,171,665 net tons. The average production from each beehive oven has increased from 365.8 tons in 1905 to 373.6 tons in 1906, and to 386.8 in 1907, while the average production for the retort ovens increased from 1158.8 tons in 1905 to 1356 tons in 1906 and to 1472 tons in 1907. In 1905 the average production from by-product ovens was a little more than three times that of the beehive, while in 1907 it was nearly four times as great.

Ovens under Construction.

At the close of 1907 there were 2546 ovens in course of construction, this being the smallest number reported as in process of construction since 1899. Of the ovens building 330, or nearly 13 per cent., were by-product recovery ovens. Of these 50 were of the United-Otto type at Kokotto, Ohio, and 280 were Kopper regenerative ovens built at Joliet, Ill., by the Illinois Steel Company.

The number of completed retort ovens has almost doubled in four years, and almost quadrupled in eight years, there being 3892 ovens in existence at the close of 1907, as compared with 1956 in 1903 and 1020 in 1899. In 1902 the production of by-product coke was 1,403,588 tons, or 5.5 per cent. of the total; in 1903 it was 1,882,394 tons, or 7.4 per cent. of the total; in 1904 it was 2,608,229 tons, or 11 per cent. of the total; in 1906 it was 4,558,127, or 12.5 per cent. of the total, and in 1907 it was 5,607,899 tons, or 13.75 per cent. of the total. Considering each bank of ovens as a separate establishment, the returns for 1907 show a total of 552 establishments, compared with 532 in 1906 and 519 in 1905. There were 67 idle establishments throughout the year in 1907, compared with 69 in 1906 and 75 in 1905.

Output by States.

The statistics of the production of coke in 1906 and 1907 are presented by States and Territories in the following table:

and the second																									
	1	37	0	d	16	e	1	ic) [1	0	1	(O	01	ke e	,	11	n	1	0)(77	and 1906. 1907. Net tons.	1906. Net tons.
Alabama																									3,034,501
Colorado and																									1,455,900
Georgia																									70,280
Illinois																									268,293
Kansas																									1,698
Kentucky																									74,064
Montana																									38,182
New Mexico.																									147,747
Ohio																									293,994
Oklahoma																								19,089	49,782
Pennsylvania							0			0		0									0			26,513,214	23,060,511
Tennessee				0			0			٠	0													467,499	483,428
Virginia	٠			0		0				0		0	6 1		. ,									1,545,280	1,577.659
Washington	0					0																0		52,028	45,642
West Virgini	a		0		0		0	0													a			4,112,896	3,713,514
Other States.						0		0		0														2,528,739	2 085,617
Totals		ĸ					4		×		٠										0			40,779.564	36,401,217

The production of Illinois was largely increased by the operations of the by-product oven plant at South Chicago, this State showing an increase of 104,004 tons, or 38.71 per cent. In 1905 the State of Illinois produced only 10,307 tons of coke. In 1907 it produced 372,697 tons.

Ontario's Transmission System.

How Electrical Power Is to Be Utilized.

TORONTO, August 15, 1908.—The contract for building transmission lines for the Hydro-Electric Power Commission of Ontario was awarded August 13 to the McGuigan Construction Company. The head of this company is F. H. McGuigan, formerly fourth vice-president and chief superintendent of the Grand Trunk Railway Company, and more recently of like status in the Great Northern Railway Company. The McGuigan Company's tender was \$250,000 less than the commission's estimate of the cost. The company is to build the lines specified for \$1,270,000, and if called upon by next February to construct another set of lines of equal length it is to do so at the same rate. The total length of line to be built at the present time is 293 miles. It is to radiate from Niagara Falls in two directions—westward to St. Thomas. and eastward to Toronto. It is to be completed by December 1, 1909. Tenders came from companies in the United States and in the United Kingdom, some being for the towers, others for the aluminum cable, others for the erection of the line. Of the 27 tenders only one other was like the McGuigan Company's, for the whole work.

The articles to be used must be of Canadian production. For the towers, which are to be 3176 in number and are to be 66 ft. high, 7340 tons of steel will be required. They are to be manufactured by the Canada Bridge Company, Walkerville, Ont., and by the Ontario Iron & Steel Company, Welland, Ont. Of aluminum cable 1,014,209 lb. will be used, and of telephone wire 140,000 lb. This will be made by the Northern Aluminum Company of America in its works at Shawinigan Falls, Que. The contractor undertakes upon due notice not only to double the mileage at the same rate, but also to furnish at the contract prices from 50 to 125 tons additional of aluminum cable for the construction of low tension lines. This is to provide for any extensions that may be desired from municipalities on the high tension lines to neighboring towns and villages.

Provision for Extension.

The provision for the doubling of the high tension lines is in preparation for possible demands for power on the part of municipalities tributary to other natural power centers in the province. Thus in Eastern Ontario the Trent Valley has great power potentialities which have been reported upon by the commission. The Ottawa Valley and the leading streams of Northwestern Ontario have likewise been reported upon. There may be municipal power leagues organized in these several valleys on the model of the league in the Niagara District, for which transmission lines are now to be built.

The Power League,

In what may be called the Niagara League the following municipalities were supposed to be associated for the purpose of taking power from the Hydro-Electric Power Commission: The cities of Toronto, West Toronto, Hamilton, London, Brantford, Guelph, Stratford, St. Thomas, Woodstock; the towns of Ingersoll, Berlin, Galt, Hespeler, St. Mary's, Preston, Paris, Waterloo; the valleys of New Hamburg and Weston. Last January the ratepayers of these several municipalities went to the polls and gave authority to their respective councils to enter into contracts with the Hydro-Electric Power Company for the supplying of stated quantities of electrical energy at delivery prices not exceeding specified rates. In pursuance of the by-laws thus approved by the ratepayers the executive heads of the majority of the municipalities named have signed contracts to take power from the commission. In the case of Hamilton, however, the City Council has decided not to act upon the authority enabling it to deal with the commission. Instead, it has elected to obtain its supply from the Cataract Power Company, a corporation made up largely of Hamilton men and already supplying from its Decew Falls plant the energy for the lighting and traction uses of the city and for operating many of its industries. This company offered the city power at practically the latter's own rate, and the Council considered this preferable to paying the rates of the Hydro-Electric Commission, notwithstanding that these were so much lower than those previously ruling. Hamilton's defection from the league may be followed by that of Brantford. As the municipalities in contract with the commission have to pay such prices as will cover all charges, both on operating and on capital account, the fewer the contracting municipal parties are the higher will be the rates. The whole policy is based on the support of the consumers. The Ontario Government, through the Hydro-Electric Power Commission, builds the transmission lines and supplies the power, but the debt and other charges incurred are recovered in the 30-year period of the contract and of the bond issue.

The detaching of members of the league by private competitors of the commission in the power business may not be confined to the case of Hamilton. The Cataract Power Company, whose enterprise brought great production works and transmission lines and traction systems into existence, will certainly continue the struggle to hold its business against this Government ownership competition. The Electrical Development Company, whose productive works are at Niagara Falls and whose transmission line extends to Toronto, will scarcely retire from the contest for Toronto's demand. There appears to be some doubt as to the ability of the Electrical Development Company-through its local distributing agency, the Toronto Electric Light Company-to make Toronto such an offer as the Cataract Power Company has made Hamilton. Were it to do so, Toronto might be hindered from going on with its municipal power scheme in spite of the contract with the commission.

The vulnerable feature in the commission's policy is that it rests on contracts with municipalities. If these for any reason become inoperative, the cost of the transmission works would have no municipal basis to rest on and would have to be shouldered by the province, in whose name the debt is formed. Not only the transmission lines and the right of way thereof, but also wholesale supplies of power are engaged by the commission. Its power is to be supplied by the Ontario Power Company, whose works are at Niagara Falls. It is provided in the agreement, however, that unless notice is duly given for the delivery of power at the commission's initial structures at the Falls, no power is to be paid for.

Industrial Development.

If the commission's policy is a success, whatever may become of the private power companies on which it has opened its state competition, it can hardly fail to be creative of industrial enterprise. Hydro-electric power supplied at prices much below half those hitherto prevailing must attract manufacturers to the municipalities in the league. No other part of the Dominion is so gridironed by the railroads as is that in what for power purposes is known as the Niagara District. In no other part is population so dense. Hence, if the commission's calculations are verified in practice, there is almost certain to be a great flowering out of manufacturing enterprise on the transmission lines.

In a rich province that has no coal of its own, that must pay a stiff duty on all the soft coal it imports, and that has widely distributed streams on which fine natural falls occur at many points, hydro-electric power is certain to become a great impulse to manufacturing activity, especially when the state intervenes with competition that insures the utmost cheapness of the power. The building of costly distributing systems in the associated municipalities will call for an outlay of several millions. This money will be brought into the country by loans floated in England. The new development has, of course, the good wishes of the companies engaged in the manufacture of electrical plant and equipment. C. A. C. J.

M. A. Hanna & Co., Cleveland, Ohio, are making some improvements in their mining property at Diorite, Mich., which consist of the installation of three 250 hp. Rust water tube boilers and three furnaces. All of the brick and flue work is being done by Vollkommer & Hagan, furnace contractors and engineers, Empire Building. Pittsburgh.

PERSONAL.

J. N. Sherer, who for the past two years has been associated with Crocker Brothers, New York, has resigned his position to assume the management of the Bellefonte Furnace Company, Bellefonte, Pa.

W. C. Franz, Charleston, W. Va., until recently general manager of the Kanawha & West Virginia Railway Company, has been appointed general manager of the Lake Superior Corporation, Sault Ste. Marie, Ontario, and its subsidiary companies.

W. P. Snyder, president, and C. D. Dyer, vice-president, of the Shenango Furnace Company, Pittsburgh, together with some friends, have gone up the lakes on the company's ore boat Wilpen, and will be absent several weeks.

H. G. Stalnaker, of the Stalnaker Iron Company, dealer in iron and steel scrap, Farmers' Bank Building, Pittsburgh, will sail this week from Philadelphia to Antwerp, and will then take a trip on the Continent, for the benefit of his health and expects to be away about six weeks.

Ambrose Beard, who has a wide practical experience in the manufacture of fine sheet steel and high grade tin plate, has been appointed assistant sales manager of the Follansbee Brothers Company, Pittsburgh, maker of black and galvanized sheets, tin and terne plate, with mills at Follansbee, W. Va.

Lewis E. Fulton has been elected treasurer of the Waterbury Farrel Foundry & Machine Company, Waterbury, Conn., to fill the vacancy caused by the resignation of his father, William E. Fulton. William Shirley Fulton becomes assistant treasurer. The other officers are: President, William E. Fulton; vice-president, George R. Lamb; secretary, D. C. Griggs.

The Republic Iron & Steel Company announces that Hardy Greenwood has been appointed its selling agent in the Southwest, with headquarters at San Antonio, Texas.

Allen D. Woods, naval architect, announces the establishment of an office in the Hudson Terminal Building, 50 Church street, New York City. He makes a specialty of designing vessels and their machinery and of surveying and supervising construction or repairing.

Robert A. McKean, of the firm of Coffin & McKean, contracting engineers, Fulton Building, Pittsburgh, has sailed for Europe to be gone two months.

Azor R. Hunt has completed a service of 21 years with the Carnegie Steel Company. For a number of years he has been general manager of the Homestead Steel Works. He was tendered a banquet at the Carnegie Hotel, Munhall, Pa., August 15, and was presented with a large silver loving cup, the presentation speech being made by J. S. Unger, assistant general manager.

W. R. Balsinger, assistant to the president of the Carnegie Steel Company, has received a communication from the Navy Department at Washington, giving the consent of the Secretary of the Navy to place on exhibition at the Pittsburgh Exposition this season a complete model of the new battleship Connecticut, which was Admiral Evans's flagship. The Connecticut was practically built of Pittsburgh material.

A. C. Campbell, secretary and superintendent of the E. J. Manville Machine Company, Waterbury, Conn., has just returned from a trip to Europe.

Joseph G. Butler, Jr., who has recently been motoring in England, will sail for home August 21 on the Amerika.

Jenkins Bros., 71 John street, New York, recently made an unusually large shipment of their Jenkins Y valves in 6 and 8 in. sizes to a new plant, which when completed will be one of the largest and most modern sugar refineries in the world. These valves are especially adapted for service in such plants or in any place where the passage of thick fluids is required, or as blow-off valves. As the seat is set at an angle of 45 degrees, little resistance is offered to the full flow of steam or any fluid. The valves thus have a full opening nearly

in line with the pipe. They are fitted with renewable seat rings and disks, so that the parts most subject to wear can be readily replaced when worn. When made in brass they are supplied in two patterns, namely, standard, for ordinary pressures of steam, and extra heavy, for high pressures. Both types are extensively used, the latter being especially suitable for high pressure boilers. Valves in iron body are made either screwed or flanged, with substantial bolted bonnets, known in the trade as "Boston hub."

OBITUARY.

ALLEN F. FLETCHER, founder and principal owner of the Athol Pump Company, Athol, Mass., died August 6, aged 69 years. He was a native of Athol. As a young man he was employed for some time by the John Russell Cutlery Company; then learned the tinware business and engaged in that line for himself in 1858. added the manufacture of pumps to his line of trade, and in 1868 sold the interest in the tinware business to his brother for the purpose of giving his exclusive attention to pumps. He invented a number of valuable appliances connected with pumps, including the suction and force pump which he made and sold extensively. In 1863 he built the first brass foundry in Athol. He leaves a widow, a daughter and a son. The son, Edgar A. Fletcher, has been associated with his father in the pump business and participated in its management.

The Gayley Dry Air Blast.

The Gayley dry air blast is now receiving a wider recognition of its merits as a result of the work that has been accomplished at the furnaces of the Warwick Iron & Steel Company, at Pottstown, Pa., the South Chicago furnaces of the Illinois Steel Company and at the Cardiff furnaces in Wales. These locations represent different climatic conditions, yet practically the same far reaching economy has been obtained as was secured with the first installation at the Isabella furnaces of the Carnegie Steel Company in Pittsburgh. License for new equipment has been granted to the following companies:

Toledo Fuinace Company, Toledo, Ohio. Two stacks. Federal Furnace Company, Chicago, Ill. Two stacks. Northwestern Iron Company, Mayville, Wis. Two stacks. Youngstown Sheet & Tube Company, Youngstown, Ohio. Two stacks.

Cleveland-Cliffs Iron Company, Marquette, Mich. One stack. In addition to the above, the United States Steel Corporation, as the result of a two months' test with the Bessemer process at the South Works of the Illinois Steel Company, has authorized an expenditure for a permanent installation to the Bessemer plant.

The adaptability of the dry air blast appears to be very wide. In the blast furnace important economies are secured through the establishment of uniformity in its operations, by means of a uniform blast supply, and in the Bessemer converter a more uniform and certain quality of steel is secured with greater economy.

An International Congress of the Refrigerating Industries.-There is to be held in Paris, from October 5 to October 11, 1908, the first international congress of the refrigerating industries, under the presidency of André Lebon, the secretary being J. de Loverdo. A series of committees has been appointed to take charge of the six sections, namely, "Low Temperatures and Their General Effects," "Refrigerating Appliances," "The Application of Refrigeration to Food," "The Application of Refrigeration to Other Industries," and "The Application of Refrigeration in Commerce and Transport." first day, October 5, C. von Linde of Munich will deliver the principal address, while the closing paper of the meeting will be by M. d'Arsonval, on liquid air and very low temperatures. The president of the American Committee is Homer McDaniel of Cleveland, and the secretary is J. F. Nickerson, editor of Ice and Refrigeration, of Chicago.

NEWS OF THE WORKS.

Iron and Steel.

George H. Lowe, 324 Irvine place, Elmira, N. Y., in connection with six others, is about to consummate a deal to take over the plant recently occupied by the Elmira Heights Rolling Mill Company at Elmira Heights. Arrangements have also been made th one of the local companies to take over the entire product the plant, which will eliminate the expense of keeping up a sales department. As the some time, it will be neces As the plant has not been in operation some time, it will be necessary to make some extensive repairs before putting it in operation. The capacity of the plant will be increased, which will necessitate the purchase of considerable new equipment. The plant will be managed entirely by the partners about to enter the deal, all of whom are practical steel men. About 200 men will be employed at the start, but as conditions warrant more will be added from time to time.

No. 2 Furnace of the Woodward Iron Company, at Woodward, Ala., has been blown out for relining.

Announcement is made that the furnace of the Woodstock Iron and Steel Corporation, at Anniston, Ala., will be put in blast September 1.

The rolling mill of the Tennessee Coal, Iron & Railroad Company at Bessemer, Ala., has again been put in operation.

The La Belle Works of the American Sheet & Tin Plate Company, at Wheeling, W. Va., after a long and very successful run, has been shut down to allow some needed im provements and additions to be made. This plant contains 10 hot mills and 10 cold mills, the product being black plate for tinning, and the annual capacity about 25,000 tons per year.

Josephine Furnace of the Josephine Furnace & Coke Com-cany, at Josephine, Pa., has started up after being idle about three months.

General Machinery.

The Walnut Lighting & Mfg. Company, Walnut, Ill., is building a machine shop and expects to manufacture electrical and other specialties. The company also does a general plumbing and heating business.

W. Gordon Brown and Clay Hanna, receivers of the Penn Shovel Mig. Company, Warren, Ohio, state that the report that the plant has been sold to some Pittsburgh parties is incorrect. A deal is on covering the sale of the works, but nothing definite has been done as yet.

Walter Losch, Topton, Pa., has installed a machine shop for general machine and repair work and has work ahead for four or five months.

The Springfield Drop Forging Company, Springfield, Mass. whose plant has been operated for the past five years under lease to the Page-Storms Drop Forging Company, has again come into possession of the plant and will continue to manufacture the same line of drop forgings. Many improvements have been made to the plant, which will be placed in operation this week.

The Goldschmidt Thermit Company, 90 West street, New York, is building a new foundry and machine shop, 34 x 90 ft... in the rear of its present plant in Jersey City, which is to be fitted up for the better handling of the extensive repair work which is now done at the plant. Traveling cranes and modern equipment will be installed, making it the most complete thermit repair shop in the country. Special attention will be given to the quick repair of electric motor cases, truck frames, cast steel gear wheels, crank shaftings, and any wrought iron and steel ections not exceeding 2000 lb. in weight.

Power Plant Equipment.

The Chanute Electric Railway Company, Chanute, Kan has been organized, with a capital stock of \$500,000, to build and operate 10 miles of railroad in and about Chanute. The officers of the company are W. M. Gray, president; J. M. Massey, vice-president; D. M. Kennedy, treasurer; S. W. Brewster,

The Royalton Power & Light Company, Royalton, Miss., reently incorporated with a capital stock of \$10,000, chased the water power on the Platte River and will erect a new lighting plant, which it is expected will be completed and ready for operation by November 1, 1908. Oscar Claussen. St. Paul, Minn., has been engaged as engineer and is drawing plans and specifications for the plant. The officers of the company are A. C. Wilson, president; Mark Murphy, vice-president; Charles R. Rhoda, secretary and treasurer.

The Colfax Springs Railway Company, Colfax, Iowa, has been incorporated, with a capital stock of \$25,000, and will build an electric railroad from Colfax to Colfax Springs, a distance of about 2 miles. The officers of the company are Frank B. Hooper, president; James P. Donahue, vice-president and treasurer: John W. Martin, secretary. The general contractor for the work is the Tri-City Construction Company, Davenport,

The city of Atkins, Ark., has granted a franchise to W. F. Turner of that city to build and operate an electric light system.

The North Beach power house of the United Railroads of San Francisco, Cal., which was severely damaged by the earth-quake, is now being repaired and additional machinery installed,

onsisting of one 5000-kw. Curtis turbine unit, with all auxiliaries, boilers, condensers, pumps, &c.

The Jasper Water & Light Company, Jasper, Fla., has recently incorporated, with a capital stock of \$25,000, and is officered as follows: W. A. Smith, president; C. W. Smith, vice-president; B. B. Blackwell, secretary and treasurer.

The Robinson Water, Light & Heat Company, Robinson, Ill., will spend \$35,000 in the reconstruction of its water and light plant, which will include the purchase of 27,000 ft. of water mains. E. B. Pollister is manager.

The new boiler house, which is an extension of the munici-water and light plant, at Coldwater, Mich., is nearing completion. The new boilers to be installed in this plant, however, will not be purchased until some time during the summer of 1909. William H. Friedrich is superintendent.

The Mayor and Aldermen of Clarksdale, Miss., will receive bids until August 24 for constructing 250,000-gal, roofed reservoir, constructing reinforced concrete chimney, 300-kw. threephase engine type generator, and 450-hp. simple Corliss or fourvalve engine for the generator. For specifications address Walter G. Kirkpatrick, engineer, Jackson, Miss.

The Schutte & Koerting Company, Philadelphia, Pa., has secured two orders for the Koerting patent oil firing system. one for equipping the new battleship North Dako.a, now in course of construction at the plant of the Fore River Ship-building Company, and another for the Delaware, which is being built oy the Newport News Shipbuilding Company. The Koert-ing system is in successful use in the English and German

Foundries.

The recent statement in these columns that the Beggs Pipe & Foundry Company, North Birmingham, Ala., had suspended operations at its plant for an indefinite period is incorrect. The company closed down its plant for a few days for some ed down its plant for a few days for badly needed repairs, but expects to start up again within a few days, as it is behind with orders and short on a good many The company reports business good and that lines of fittings. it is getting very satisfactory prices for its products.

The Southern Pipe & Foundry Company, North Birming-ham, Ala., has suspended operations for an indefinite period.

Hardware,

The Stanley Rule & Level Company, New Britain, Conn., has completed plans for a new brick factory building, three stories and basement, of heavy mill, slow burning construction. The walls will be heavy enough to permit of raising the building several stories when desired. The structure will be used mainly for storage purposes, and neither power nor elevator will be installed. A steel bridge will connect with the present factory

Fires.

The plant of the United States Hame Company on Watt

The plant of the United States Hame Company on Watt street, Buffalo, was damaged to the extent of \$8000 by fire on the 16th inst. The loss is covered by insurance.

Fire destroyed the main building of the Jenkins Rubber Company, at Magnolia avenue and Division street, Elizabeth.

N. J., August 6, causing a loss which is estimated at \$100,000, including considerable machinery.

The machine shop of the Austin Machine Works, Minneapolis,

Minn., was badly damaged by fire August 7.

The main building of the Albany Iron Company, Albany, Ore., was recently destroyed by fire, the loss being about Miscellaneous.

The Asheville & Carolina Railway Company, Asheville, N. C., recently incorporated with a capital stock of \$200,000, to construct an electric railroad from Asheville to the South Carolina State line, a distance of 35 miles, will take over the franchise of the Asheville & Hendersonville Railway Company, which owns the right of way of the proposed Asheville-Hendersonville electric line, and this right of way will be included in the line of the company. Work of construction will be started this month. The company has also been granted a charter with capital stock of \$100,000 in South Carolina to construct an electric railroad from Greenville, S. C., to the North Carolina boundary, a distance of 40 miles. The South Carolina section of the road a distance of 40 miles. The South Carolina section of the road will be known as the Greenville & Carolina Railway, the two roads forming one continuous line from Greenville to Asheville. The power plant will be located in the Blue Ridge Mountains about 20 miles from Asheville. The Carolina Construction Company, Asheville, has been awarded contract for the building of

The installation of a 10-ton ice plant this winter is being considered by the Alma Light & Ice Company, Alma, Kan.

After a copartnership of 15 years, Deetz & Co., Duluth, Minn., has been incorporated under this same name with a capital of \$50,000. The company manufactures a complete line of sheet metal fire proof windows and doors, cornice and skylights, steel ceilings, ventilators and wrought iron work. officers are A. W. Deetz, president and manager; E. W. Deetz, secretary and treasurer.

The National Metal Molding Company will enlarge its factory at Economy, Pa., and has placed a contract for the structural steel work with the Wm. B. Scaife & Sons Company, Pitts-

The Iron and Metal Trades

Favorable agricultural conditions find direct expression in the demand for the many lighter lines of iron, steel and hardware which the farmer consumes, and in these the requirements are rapidly approaching the normal volume. In the heavier lines the business is still spotty, but there is a more cheerful tone, with greater confidence, which is causing the mills to buy raw material more courageously. The strength in the markets for Old Material reflects this fairly well.

Sellers of Foundry Pig Iron are considerably less urgent, but large buyers, while feeling the market, do not seem to be convinced that concessions cannot be secured. Their point of view receives some support from the weakness of Bessemer and Basic Pig Iron in the Central West, where sales of about 20,000 tons of these grades are reported at lower prices than hitherto prevailing. Stocks, generally speaking, are decreasing, those of the United States Steel Corporation being down to about 77,000 tons, the lowest on record, not counting the Tennessee Company.

There is more employment in the heavier lines, and a fair prospect of an increase. Thus the car builders have inquiries in hand, including the Harriman order, for about 12,000 cars. A number of the railroads are putting cars and locomotives into order so that requirements from that direction are larger. The Steel Corporation will probably at an early date place an order for two ore boats, the first work of that kind coming to the Lake yards for a long time.

In Structural Material the most interesting development of the week has been the sale of a lot of 10,000 tons for shipment to Canada.

In the domestic markets the competition of the fabricators continues very keen. During the week very little work has been actually placed. It includes 2700 tons for the building to be erected on the site of the Everett House in this city, and 2000 tons for the Panhandle Bridge at Steubenville, Ohio. It is estimated that between 20,000 and 25,000 tons of bridge work is now on the market, this including 6000 tons for the Carolina, Clinchfield & Ohio, 3700 tons for an eight track lift bridge over the Chicago Drainage Canal, and 1000 tons for the Grand Trunk.

At Springfield, Mass., bids will be opened on the 9th of September for a 12-mile 42-in, pipe line. If Cast Iron Pipe is adopted the tonnage will be 18,500 tons. If a Steel Pipe line is selected there will be required between 8000 and 9000 tons of Steel Plates. Press reports of a record breaking order for Line Pipe having been placed with the National Tube Company by the Standard Oil Company are untrue. No unusual business has been taken. It is a fact, however, that the Standard Oil Company has this year ordered a greater tonnage than ever before, among the orders being one for 550 miles of 6-in, line pipe, on which shipments are now nearly completed.

No new business of any consequence has been done by the Rail mills. There are some heavy inquiries in the market for Rails for export.

The speculators in Copper, who often operate simultaneously in stocks, seem to have overshot the mark. The price has sagged back to 13½c. for Electrolytic and 13%c. for Lake, with little buying on the part of consumers.

Spelter has eased off to 4.65c., New York.

A Comparison of Prices.

Advances Over the Previous Month in Heavy Type, Declines in Italies.

At date, one week, one month and one year previous.

and the state of t			7 1 1 7	. 01
			July 15.	Aug.21,
PIG IRON, Per Gross Ton:	1908.	1908.	1908.	1907.
Foundry No. 2, Standard, Phila-				
delphia	\$16.50	\$16.50	\$16.50	\$22.00
Foundry No. 2, Southern, Ciacin-				
nati	15,25	15.25	15.00	22.75
Foundry No. 2, Local, Chicago	17,00	17.00	17.00	24.50
Bessemer, Pittsburgh	15.30	16.30	16.90	22.90
Basic, delivered Eastern Pa	15.00	15.00	15.00	20.50
Fasic, Valley Furnace	14.56	14.75	15.00	21.00
Gray Forge, Pit sburgh	14.65	14.65	14.90	21.90
Lake Superior Charcoal, Chicago	19.50	19.50	20.00	27.50
BILLETS, &c., Per Gross Ton :	40100	10100	-0.00	
	08.00	0	07 00	110.00
Bessemer Billets, Pittsburgh	25,00	25,00	25.00	29 00
Forging Billets, Pittsburgh	27.00	27.00	27.00	33.00
Open Hearth Billets, Phila	26.20	26.20	26.20	31.50
Wire Rods, Pittsburgh	33.00	33.00	33.00	36.00
Steel Rails, Heavy, Eastern Mill	28.00	28.00	28.00	28.00
OLD MATERIAL, Per Gross Ton :				
	14.25	14.25	12.75	17.00
	14.50		13.50	17.00
Steel Rails, Melting, Phila		14.50		
tion among contemporario		16.50	16.00	20.50
Iron Rails, Philadelphia	20.00		18.00	20.50
Car Wheels, Chicago	15.50	15.50	13.00	
Car Wheels, Philadelphia	15.00	14.50	13.50	23.50
Heavy Steel Scrap, Pittsburgh	15.00	15,00	14.00	
Heavy Steel Scrap, Chicago	13,00	13.00	11.50	
Heavy Steel Scrap, Philadelphia	14.50	14.50	14.00	16.75
FINISHED IRON AND STEEL,				
Per Pound :	Cents	Cents	Cents	. Cents.
Refined Iron Bars, Philadelphia.	1.40		1.35	1.85
Common Iron Bars, Chleago	1.50		1.50	1.78
	1.40			1.70
Common Iron Bars, Pittsburgh.			1.40	
Steel Bars, Tidewater, New York	1.56			1.86
Steel Bars, Pittsburgh	1.40			1.60
Tank Plates, Tidewater, New York			1.76	1.86
Tank Plates, Pittsburgh	1.60		1.60	1.70
Beams, Tidewater, New York	1.76		1.76	1.86
Beams, Pittsburgh	1.60			
Angles, Tidewater, New York	1.76			1.83
Angles, Pittsburgh	1.60			
Skelp, Grooved Steel, Pitsburgh	1.45			
Skelp, Sheared Steel, Pittsburgh.	1.50	1.50	1.50	1.95
SHEETS, NAILS AND WIRE,				
Per Pound :	Cents	Cents	Cents	. Cents.
Sheets, No. 27, Pittsburgh	2.40			
Wire Nails, Pittsburgh	1.95			
Cut Nails, Pittsburgh	1.75			
Barb Wire, Galv., l'ittsburgh	2.40			
METALS, Per Pound:	Cents			. Cents.
Lake Copper, New York				19.00
Electrolytic Copper, New York				
Spelter, New York	4.65			
Spelter, St. Louis	4.50	4,62	1/2 4.30	5.55
Lead, New York	4.60	4.60	4.45	5.10
Lead, St. Louis	4.45			
Tin, New York	29.50	30.50	29.20	
Antimony, Hallett, New York	8.90	8.00		
Nickel, New York	45.00	45.00	45.00	45.00
Tin Plate, 100 lb., New York	\$3.89	\$3.89	\$3.89	\$4.09

Chicago.

FISHER BUILDING, August 19, 1908.—(By Telegraph.)

The Iron industry in the West is somewhat like a sixhorse team in which the horses do not pull together. In some branches of the trade the volume of business is very satisfactory, and others are doing fairly well in view of the general business conditions, while some are lagging behind. In Wire products, for example, which are controlled largely by agricultural conditions, business is quite active, and jobbers occasionally have difficulty in getting as prompt shipment as they desire for round lots. The Bar mills are making a fair run on specifications that are coming in on current contracts from the railroads for repair work and from the implement nanufacturers for their fall trade, as well as from other sources. In Structural Material there is a gratifying increase in the volume of small orders, which furnishes conclusive evidence of the growth of fireproof construction. No large contracts have been taken recently in this market, and the fabricators are disappointed at the small tonnage of bridge work that is coming out. Prospects, however, are more encouraging than the business in hand. The new eightrack rolling lift bridge over the Drainage Canal will require 3700 tons of Steel besides 200 tons of machinery. The Union Depot, which the Pennsylvania Railroad proposes to erect on the site of the building now in use, will extend south from the new northwestern passenger terminal along the Chicago River, and will be a large structure. The present depot is used by the Chicago, Milwaukee & St. Paul; Chicago, Burlington & Quincy, and Chicago & Alton, as well as by the Pennsylvania lines. Track Supplies are selling well,

and there is a steady improvement in Sheets, Plates and Pipe. The stiffening in the price of Southern Pig Iron has had a dampening effect on the general buying movement, as foundrymen are not yet reconciled to the advance. Old Material continues strong, and dealers report a general increase in orders for small lots.

Pig Iron.—The activity in Southern Iron, which was reported last week, has had a noticeable effect in strengthening the situation among the Southern furnaces, and there are no prices openly quoted in this market lower than \$12.50 for No. 2 Foundry, Birmingham, this price being asked for the High Phosphorus Irons of northern Alabama, while some of the Birmingham interests are holding for \$13. No sales have been reported in this market at \$13, Birmingham, but one lot of 500 tons was closed last week at \$12.50. Some current business in small lots is also reported at the latter figure, but the leading sellers admit that the advance has checked the general buying movement for the present. The general impression is that the furnaces will not accept less than \$12.50 on new business, and if any concessions are made from this price they are limited to resale Iron. The demand for Northern Iron is improving slowly. The leading sellers are holding firmly for their regular prices, and they believe that in the course of time the weak spots will be eliminated. The foundry situation is somewhat mixed. Many instances are reported where foundries are running with full force, and others are doing a fair volume of busings of the inhibit of the standard of the stan plied with orders. On the whole, it is believed that the melt continues to increase. A feature of the trade which excites some comment is that in all the large tonnages contracted for in the past few months there are practically no requests to delay deliveries, and the current business generally calls for immediate or prompt shipment. This is considered a good indication that consumption is following closely the actual movement of Iron from the furnaces. The following quotations are for August and September delivery, f.o.b. Chicago:

Care Care		
Lake Superior Charcoal	\$19.50 to	\$20.00
Northern Coke Foundry, No. 1	17.50 to	18.00
	17.00 to	17.50
Northern Coke Foundry, No. 3	16.50 to	17.00
Northern Scotch, No. 1	18.00 to	18.50
Southern Coke, No. 1	16.85 to	17.35
Southern Coke, No. 2	16.35 to	16.85
Southern Coke, No. 3	15.85 to	16.35
Southern Coke, No. 4	15.35 to	15.85
Southern Coke, No. 1 Soft	16.85 to	17.35
Southern Coke, No. 2 Soft	16.35 to	16.85
Southern Gray Forge	14.85 to	15.35
Southern Mottled	14.60 to	15.10
Malleable Bessemer	17.50 to	18.00
Standard Bessemer	18.40 to	18.90
Jackson Co. and Kentucky Silvery, 6 %	19,90 to	20.40
	20.90 to	
Jackson Co. and Kentucky Silvery, 10 %	22.90 to	23.40

(By Mail.)

Billets and Rods.—The week has passed without any notable transactions in Billets. Contracts in this line are closed at rare intervals in this district, owing to the small number of consumers. The price of Forging Billets remains at \$28.50, base, Chicago. There is a more active and steady demand for Wire Rods, as the sales of Wire products have reached a volume that keeps all branches of the Wire industry active. Regular quotations are maintained as follows: Bessemer, \$33; Basic, \$34; Chain, \$33; all at Pittsburgh.

Rails and Track Supplies.—No important orders were booked for Standard Section Rails the past week, but the demand for Light Rails is quite active, especially from the lumber and mining interests, which are increasing their operations. There is also a general increase in orders for Track Fastenings, especially from the Western roads, which are pushing necessary repair work to take care of the crop movement. There were no large orders received last week, but the volume of mail orders shows a satisfactory gain, Monday morning's mail being the best this year. We quote as follows: Angle Bars, accompanying Rail orders, 1908 delivery, 1.50c.; car lots, 1.60c.; Spikes, 1.80c. to 1.90c., according to delivery; Track Bolts, 2.20c. to 2.25c., base, Square Nuts, and 2.35c. to 2.40c., base, Hexagonal Nuts. The store prices on Track Supplies range from 0.15c. to 0.20c. above mill prices. Light Rails, 25 to 45 lb., \$28; 20-lb., \$29; 16-lb., \$30; 12-lb., \$31. Standard Sections, \$28, f.o.b. mill, full freight to destination.

Structural Material.—The tonnage of bridge contracts was small the past week, the American Bridge Company having booked only 750 tons distributed in small lots. The fabricators, however, feel more cheerful over the outlook for the immediate future. The Sanitary District of Chicago will open bids September 2 for an eight-track Scherzer rolling lift bridge of single leaf design over the Drainage Canal, equal to four double track single leaf bridges. It is also reported that the Pennsylvania Railroad has definitely decided to begin work in the near future on a large passenger terminal to replace the present Union Depot west of the Chicago River. In Structural building material there is a steady growth in the aggregate of small orders, owing to the general increase in the use of Steel in business and residence structures. Prices from store are 1.95c. to 2c. Mill

prices at Chicago are as follows: Beams and Channels, 3 to 15 in., inclusive, 1.78c.; Angles, 3 to 6 in., ¼-in. and heavier, 1.78c.; larger than 6 in. on one or both legs, 1.88c.; Beams, larger than 6 in. on one or both legs, 1.88c.; Beams, larger than 15 in., 1.88c.; Zees, 3 in. and over, 1.78c.; Tees, 3 in. and over, 1.83c.

Plates.—No special activity is shown in the demand for Plates, but a steady improvement is noted in the specifications for early delivery. One Chicago mill is running at full capacity on Light Plates, and all sales offices report a steady improvement in the demand for Sheared Plates. We quote mill shipments as follows: Tank Plates, ¼-in. and heavier, wider than 6¼ and up to 100 in. wide, inclusive, car lots, Chicago, 1.78c.; 3-16 in., 1.88c.; Nos. 7 and 8 gauge, 1.93c.; No. 9, 2.03c.; Flange quality, in widths up to 100 in., 1.88c., base, for ¼-in. and heavier, with the same advance for lighter weights; Sketch Plates, Tank quality, 1.88c.; Flange quality, 1.98c. Store prices on Plates are as follows: Tank Plates, ¼-in. and heavier up to 72-in. wide., 2c. to 2.10c.; from 72 to 96 in. wide, 2.10c. to 2.20c.; 3-16 in. up to 60 in. wide, 2.10c. to 2.25c.; 72 in. wide, 2.30c. to 2.40c.; No. 8 up to 60 in. wide, 2.10c. to 2.15c.; Flange and Head quality, 0.25c. extra.

Sheets.—A good demand is coming from jobbers for Galvanized Sheets. There are also more buyers for Blue Annealed and one order for 200 tons was refused by a local mill because the buyer wanted delivery in a week, but the mill could not make shipment in less than four or five weeks. We quote mill shipments as follows, Chicago: Blue Annealed, No. 10, 1.98c.; No. 12, 2.05c.; No. 14, 2.08c.; No. 16, 2.18c.; Box Annealed, Nos. 17 to 21, 2.43c.; Nos. 22 to 24, 2.48c.; Nos. 25 and 26, 2.53c.; No. 27, 2.58c.; No. 28, 2.68c.; No. 29, 2.78c.; No. 30, 2.88c.; Galvanized Sheets. Nos. 10 to 14, 2.63c.; Nos. 15 and 16, 2.83c.; Nos. 17 to 21, 2.98c.; Nos. 22 to 24, 3.13c.; Nos. 25 and 26, 3.33c.; No. 27, 3.53c.; No. 28, 3.73c.; No. 30, 4.23c.; Black Sheets from store: Blue Annealed, No. 10, 2.15c.; No. 12, 2.20c.; No. 14, 2.25c.; No. 16, 2.35c.; Box Annealed, Nos. 18 to 21, 2.60c.; Nos. 22 to 24, 2.65c.; No. 26, 2.70c.: No. 27, 2.75c.; No. 28, 2.85c.; No. 30, 3.25c.; Galvanized from store: Nos. 10 to 16, 3c.; Nos. 18 to 20, 3.15c.; Nos. 22 to 24, 3.30c.; No. 26, 3.50c.; No. 27, 3.70c.; No. 28, 3.90c.; No. 30, 4.40c. to 4.45c.

Bars.—Little new business has been booked, but specifications are improving, and the mills are making a fair run on the business in hand. The railroads are taking a good quantity in small lots for repair work, and the manufacturers are also furnishing larger orders. One buyer has given specifications for the entire year on his contract, and others until January 1. The inquiries for Iron Bars are light at present, but the stiffening in prices of Old Material has given a stronger tone to the prices of Iron Bars. Quotations, Chicago, are as follows: Steel Bars, 1.58c., with half extras; Iron Bars, 1.50c.: Hoops, No. 13 and lighter, 1.98c., full extra Hoop card; Bands, No. 12 gauge and heavier, 1.58c., half extra Steel Bar card; Soft Steel Angles and Shapes, 1.68c., half extras. Store prices are as follows: Bar Iron, 2c. to 2.15c.; Steel Bars, 1.90c. to 2c.; Steel Bands, 1.90c., as per Bar card, half extras: Soft Steel Hoops, 2.25c. to 2.35c., full extras.

Merchant Pipe.—Jobbers are increasing their orders, especially from the Northwest, and there is a fairly satisfactory growth in business. The building activity in the West creates a good demand for plumbing and heating Pipe. The following mill discounts are quoted: Black Pipe, ¾ to 6 in., 73.2; 7 to 12 in., 70.2; Galvanized, ¾ to 6 in., 63.2. These discounts are subject to one point on the base. From store, in small lots, Chicago jobbers quote 73 per cent. on Black Steel Pipe, ¾ to 6 in. About three points above these prices is asked for Iron Pipe.

Boiler Tubes.—The railroads are buying Locomotive Tubes only for necessary repairs, and there is no demand for new construction. The boiler shops are doing some business, and creating a little more demand in their line. Mill quotations for future delivery on the base sizes are as follows: 2¾ to 4½ in., inclusive, Steel Tubes, 63.2; Iron, 50.2; Seamless, 50.2; 2½ in. and smaller, and lengths over 18 ft., and 2½ in. and larger, and lengths over 22 ft., 10 per cent. extra. Store prices are as follows:

S	teel. Iron. Seamless.
1 to 11/6 in	35 35 35
1% to 2% in	50 35 35
21/2 in	521/2 35 35
2% to 5 in	60 471/2 471/2
6 In. and larger	50 35

Merchant Steel.—New business is light in volume, but specifications are coming forward in a more satisfactory manner on contracts for the year. Some of the implement manufacturers have specified in advance for several months, and a more liberal tendency is noted in this line. The demand for Shafting and Machine Steel is not showing as much progress. We quote as follows: Planished or Smooth Finished Tire Steel, 1.78c.: Iron Finish, up to $1\frac{1}{2} \times \frac{1}{2}$ in., 1.73c., base, Steel card; Iron Finish, $1\frac{1}{2} \times \frac{1}{2}$ in. and larger, 1.58c., base, Tire card: Channels for solid Rubber Tires. $\frac{3}{4}$ to 1 in., 2.08c., and $1\frac{1}{6}$ in. and larger, 1.98c.; Smooth Fin

The

ished Machinery Steel, 2.08c.; Flat Sleigh Shoe, 1.63c.; Concave and Convex Sleigh Shoe, 1.83c.; Cutter Shoe, 2.05c.; Toe Calk Steel, 2.13c.; Railroad Spring, 1.98c.; Crucible Tool Steel, 7½c. to 8c., and still higher prices are asked on special grades. Cold Rolled Shafting on contracts for 100 tons and over, 57 per cent. off; 56 per cent. off in car lots; 52 per cent. in less than car lots, on which carload freight is allowed within base territory.

Cast Iron Pipe.—The market has been quiet and little has been booked excepting small current lots. Bids for supplying 1000 tons of Water Pipe for the city of Decatur, Ill., are being received. No change is reported in prices, which we quote nominally per net ton, Chicago, as follows: Water Pipe, 4 in., \$27; 6 to 12 in., \$26; 16-in. and up, \$25, with \$1 extra for Gas Pipe.

Old Material.—A strong tone is maintained in the Scrap market, and dealers are asking higher prices, especially for Wrought Scrap. Relaying Rails are scarce and in good demand for yard extensions and similar purposes. There are no new railroad lists in the market this week, but good prices were realized on those closed last week. The Santa Fé obtained \$13.50 for a lot of No. 1 Wrought, \$16 for Rerolling Rails and \$13.20 for No. 1 Cast. The Wisconsin Central recently obtained \$16.25 for a lot of Old Car Wheels, which went to a dealer. Consumers are not willing to pay more than \$16, apparently. There is a more active general demand from consumers for material, but they are buying in relatively small lots. Dealers are very confident of the future, and inquiries for any large tonnage would undoubtedly stiffen prices. There is a feeling that the prices of mill Scrap have about reached the limit that the mills can afford to pay until they can realize better prices for Iron Bars than they have obtained recently. The dealers have been fortunate thus far in forecasting the developments in the Iron trade, and they are confident of a more active demand from consumers in the near future. We quote, per gross ton, f.o.b. Chicago, as follows:

Old Iron Ralls\$16.50 to \$17.	00
Old Steel Rails, rerolling 15.75 to 16.	25
Old Steel Rails, less than S ft 14.25 to 14.	75
Relaying Rails, standard sections, sub-	
ject to inspection	00
Old Car Wheels 15.50 to 16.	00
Heavy Melting Steel Scrap 13.00 to 13.	50
Frogs, Switches and Guards, cut apart. 14.00 to 14.	50
Mixed Steel 10.25 to 10.	75

è	following quotations are per net ton:			
	Iron Fish Plates	\$15.50 to	\$16.00	
	Iron Car Axles	17.50 to	18.00	
	Steel Car Axles	16.50 to	17.00	
	No. 1 Railroad Wrought	13.00 to	13.50	
	No. 2 Railroad Wrought	11.75 to	12.25	
	Railway Springs	12.75 to	13.25	
	Locomotive Tires, smooth	13.00 to		
	No. 1 Dealers' Forge	10.00 to		
	Mixed Busheling	7.50 to		
	Iron Axle Turnings	6.75 to		
	Soft Steel Axie Turnings	6.75 to		
	Machine Shop Turnings	6.75 to		
	Cast Borings	5.50 to		
	Mived Roringe &c	5.50 to		
	Mixed Borings, &c	5.50 to		
	No. 1 Mill	7.50 to		
	No. 2 Mill	6.00 to		
	No. 1 Boilers, cut to Sheets and Rings.	9.50 to		
	No. 1 Cast Scrap	12.75 to		
	Stove Plate and Light Cast Scrap	11.00 to		
	Railroad Maileable	12.00 to		
	Agricultural Malleable	11.00 to	11.50	
	Pipes and Flues	9.50 to	10.00	

Metals.—The dropping off of large inquiries for Copper in the Eastern market, which caused a fractional decrease in the price, has been reflected in this market, and this week quotations are ¼c. lower. The aggregate of small orders placed last week was well up with that of the two previous weeks, but no large orders were placed. Pig Tin is off a little, but the rest of the items hold firm, although there is not much of a demand. Last week's transactions in Old Metals, while fairly good, were not up to those of the previous two weeks. We quote as follows: Casting Copper, 13%c.; Lake, 14c. to 14¼c., in car lots for prompt shipment; small lots, ¼c. to 3%c. higher; Pig Tin, car lots, 32½c.; small lots, 34½c.; Lead, Desilverized, 4.65c. to 4.75c., for 50-ton lots; Corroding, 4.90c. to 5c., for 50-ton lots; in car lots, 2¼c. per 100 lb. higher; Spelter, 4.85c.; Cookson's Antimony, 10½c., and other grades, 9¾c. to 10¼c.; Sheet Zinc is \$7, list, f.o.b. La Salle, in car lots of 600-lb. casks. On Old Metals we quote: Copper Wire, 13¼c.; Heavy Copper, 13c.; Copper Bottoms, 10½c.; Copper Clips, 11c.; Red Brass, 11½c.; Yellow Brass, 9c.; Light Brass, 6½c.; Lead Pipe, 4c.; Zinc, 3¾c.; Pewter, No. 1, 21c.; Tin Foil, 23c.; Block Tin Pipe, 25c.

The Harlan & Hollingsworth Corporation, Wilmington, Del., states that the reports which have appeared in the daily press regarding its absorption by the Bethlehem Steel Company are more or less in error. The corporation is a subsidiary of the Bethlehem Steel Corporation. It is a builder of steel vessels and passenger cars, and is now simply contemplating tearing down two of its old shops and replacing these with a new building. This matter, however, has not yet taken definite shape.

San Francisco.

SAN FRANCISCO, CAL., August 12, 1908.

The first few days of August have shown an improvement over July in some respects, although that month made a very good building record. The local manufacturing situation has not improved materially, but the outlook is rather more encouraging. The stagnation in coastwise steamer business consequent upon the demoralization of lumber prices has caused the tying up of many vessels, and few new engines are being constructed for steam schooners in local engineering works. The great activity in the oil regions of California and the gradual improvement in the mining and smelting lines will eventually result in the placing of many good orders with machine shops and foundries. The prices of crude petroleum are still firm, and there is a probability that they will go higher. When oil reaches \$1.25 per barrel, however, Coal will again be in demand as a competitor of the liquid fuel.

Structural Materials.—The actual demand for fabricated Steel and Iron for the immediate construction of buildings has been limited to comparatively small orders the past week or two. Several large contracts for Structural Shapes for good buildings are still held in abeyance, awaiting the final acceptance of plans or the completion of financial arrangements. The State Harbor Commission has awarded Robert Wakefield a construction contract, amounting to \$302,400, for a new wharf on the San Francisco water front, which is to be designated Pier 40. The price was \$40,000 below the estimate made by the State Engineer. The new pier will be constructed of Steel and concrete, and will have a Steel shed with a railroad track extending down the center. San Francisco's building permits for July numbered 569, with a total valuation of \$3,139,027, an increase of \$787,000 over the figures for June. In Los Angeles 571 permits were issued during the month, with a valuation of \$1,352,290.

Pig Iron.—There is little change in the local market. The foundry demand is still light and no large orders are being placed with local importers. There is ample stock on hand for present requirements and comparatively few shipments are being made from foreign countries to this port. The slight fluctuations in the prices of American Pig Iron on the Atlantic Coast do not have any particular effect on prices here. No cargoes of foreign Pig Iron have been received here since last report. Prices of No. 1 English, No. 1 Scotch and Chinese Pig Iron are about \$27 per ton, ex-yard.

Cast Iron Pipe.—Just now there is a lull in the inquiries for Cast Iron Pipe, which were quite numerous last month, but the year's total tonnage will undoubtedly make a good showing, as several important jobs are expected in the future. In Los Angeles, for instance, the requirements for the new distribution system in connection with the increased municipal water supply will be large. The water supply situation in San Francisco is still rather mixed, but after much opposition from interested sources money has been provided for a preliminary examination of the Hetch-Hetchy supply from the high Sierras by competent engineers. An option has been taken on a site for a diverting dam, &c., in the Hetch-Hetchy Valley in Tuolumne County. Los Angeles advices say that if any of the seven bids put in for the construction of the Jawbone Canyon section of the Owens River Aqueduct is accepted by the Board of Works the contract will be awarded to John Moran of that city. His bid of \$2,286,247 was the lowest. The city of Santa Barbara has just taken bids for 350 tons of Cast Iron Pipe for the municipal water system. A great variety of Cast Iron fittings and 31 4-in. fire hydrants were also included in the proposals. Present prices on Cast Iron Pipe per ton, f.o.b. Pacific Coast terminals, are about as follows: 4-in., \$34.50; 6-in., \$33.50; 10 and 12 in., \$33.

Merchant Pipe.—No improvement is noted in the demand for Merchant Pipe, and there is a growing disposition on the part of local jobbers to cut retail prices under increasing competition. Much second-hand Pipe is offered at very low prices. The differential remains unchanged. Discounts on Steel Pipe are about as follows on jobbers' carloads:

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36	in.	-												٠				,							.58.5		44.5
12	in.															_									. 60.5		48.5
3%	to t	R	in																						. 64.5		54.5
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1/2	to	4	in																						.56.5		44.5
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14	to !																								45.5		34.5

Coke.—The local market for Foundry Coke has not improved and there is a very light demand, with good sized stocks on hand. There is always some demand for the cheaper grades of Coke, principally Australian, for the smelters in operation along the coast. A consignment of 1504 tons of English Foundry Coke has just been received by Girvin & Eyre. The steamship Boveric, which arrived

August 11 from Sydney, brought 2505 tons of Australian Coke, consigned to J. J. Moore & Co. Coke prices per ton in this market are now about as follows: English and Scotch, \$13; German Syndicate, \$12; Australian, \$9.

During the past nine months comparatively little money has been invested in new engineering projects of an electrical nature on the Pacific Coast. Promotion has been almost at a standstill for want of financial support, and most of the engineers have been idle since the financial stringency struck the Coast last fall. Now, however, there is a change taking place, and the Pacific Coast agencies of the leading electrical manufacturing companies are busy making estimates for several large projects which have good prospects for securing financial support. Engineers predict that the coming winter and spring will find them very busy

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The United Railroads of San Francisco, which is enlarging its North Beach steam driven electric power plant and installing a 5000-kw. Curtis turbine and General Electric three-phase 13 200-volt direct connected unit, is figuring on a still further increase of capacity there. Also negotiations are on foot for acquiring the partly constructed hydroelectric plant of the Stanislaus Power Company, which will transmit power more than 100 miles to this city. The machinery is on the ground for two 13,000-hp. direct connected units, driven by Pelton water wheels made in San Francisco. A number of the Steel towers of the transmission line have been erected, and the plant could be placed in condition to supply the street railroad company with all the power it needs in a comparatively short time.

W. B. Bourn, formerly president of the San Francisco Gas & Electric Company, who now holds a controlling interest in the Spring Valley Water Company of San Francisco, controls valuable water rights in the Sierra Nevada Mountains which can be developed so as to furnish thousands of horsepower for electric transmission to this city. Estimates have been secured and there is a possibility that this phase of the project may be carried out, although the proposition was intended primarily to supply city water for San Francisco. The outcome of the question whether the city will construct its own system from the Hetch-Hetchy Valley or buy out the Spring Valley Company will have much bearing upon Bourn's electric project.

much bearing upon Bourn's electric project.

The Pacific Gas & Electric Company, which supplies San Francisco with power and has the largest system of hydroelectric plants and transmission lines on this Coast, has purch sed an additional 5000-kw. three-phase Curtis turbine G. E. unit for installation in its steam plant in Oakland. This company recently placed its new 8000-hp. Deer Creek hydro-electric plant in commercial operation, and it is officially stated that there is no present shortage of power, notwithstanding the unusually long dry season. However, the thousands of patrons of the company have been advised to avoid any preventable waste of electric current in order to prevent a possible shortage of water later on. It is said that the company now has 85 per cent. of the full storage

capacity of its numerous reservoirs available.

The Kings River Power Company, Los Angeles, has filed a claim to 40,000 miners' inches of water of Kings River to be diverted in Fresno. Situated midway between San Francisco and Los Angeles, a power plant could serve both cities.

A syndicate of capitalists of Portland, Ore., and Salt Lake City has perfected plans for the immediate construction of a 2000-barrel cement mill on a 15-acre site in a suburb of the former city. Lime rock will be transported by rail from Roseburg, Ore., to the new plant. Cheap electric power will be available at the site.

Birmingham.

BIRMINGHAM, ALA., August 17, 1908.

Pig Iron.—In the week just ended the activity in this market was not so marked as in the week previous, but the advance in quotations has been maintained. A smaller proportion of inquiries from competitive points has resulted in sales since a firmer basis for quotations has been established, but the outlook for Southern producers is such that their intended policy is apparently unaffected. Reports from all sources indicate a new low record for stock accumulations, and notwithstanding the fact that the rate of production is soon to be increased, it is generally conceded that the tonnage available for the remainder of the year is comparatively small. For strictly last quarter delivery a basis of \$13. Birmingham, has been adopted by practically all concerns and could hardly be shaded. The sale of 1000 tons for shipment covering the remainder of the year is reported at this price, resulting in further advance in quotations by the interest who entered the tonnage. A number of carloads for early shipment sold at \$12.50 per ton during the week, which is believed to be the lowest price consideration among transactions reported. The sale of 150 tons of Clifton High Manganese, with Silicon unusually high, was effected at \$14.50 per ton, Birmingham. Of the inquiries reported pending, a lot of 5000 tons, for shipment to commence immediately, is the principal. The aggregate of smaller lots to be placed

reaches well into round figures. Some of the leading Pipe manufacturing interests are expected to enter the market for additional tonnage to cover requirements for the remainder of the year. The idle capacity in this district has recently been increased, but the actual melt shows a material increase and is conservatively estimated at 70 per cent, of what would have been expected ordinarily.

Cast Iron Pipe.—The principal transaction for the past week was the awarding of 1000 to 1500 tons of Water Pipe for the city of Cheyenne, Wyo. This contract was placed with the American Cast Iron Pipe Company, Birmingham, but the price received is not made public. A number of orders for 250 to 600 tons each are among the reports, which were placed at a higher average price than published quotations. The aggregate tonnage represented by pending inquiries for small lots is quite attractive. Among the small municipalities expected to enter the market are Prattville, Ala., and Fall City, Neb. There is no addition to the list of large contracts being advertised. Quotations are generally considered firmer, but a change is not authorized and we continue to quote as follows, per net ton, f.o.b. cars here: 4 to 6 in., \$23: 8 to 12 in., \$22: over 12-in., average \$21, with \$1 per ton extra for Gas Pipe.

Old Material.—The volume of business transacted in this market shows a material improvement. There has been a perceptible strengthening in the demand for Cast and Wrought Scrap and Stove Plate. and dealers have revised their asking prices accordingly. The demand for Steel Scrap is still very light, but a departure from the appended schedule of prices could hardly be effected. Revised quotations of dealers are as follows, per gross ton, f.o.b. cars here:

Old Iron Rails	
Old Iron Axles	15.50 to 16.00
Old Steel Axles	13.00 to 13.50
No. 1 Railroad Wrought	13.00 to 13.50
No. 2 Railroad Wrought	10.50 to 11.00
No. 1 Country Wrought	11.00 to 11.50
No. 2 Country Wrought	9.50 to 10.00
No. 1 Machinery	10.50 to 11.00
No. 1 Steel.	
Wrought Pipe and Flues	
Stove Plate and Light Cast	
Cast Borings	5.00 to 5.50

Pittsburgh.

PARK BUILDING, August 19, 1908.—(By Telegraph.)

Pig Iron.-Inquiries are more plentiful and more sales are being made, but prices are lower. During the week upward of 20,000 tons of Standard Bessemer, Malleable Bessemer and Basic have been sold, mostly for this year's delivery, at the lowest prices these grades of Iron have reached in a long time. There are several very persistent sellers who are taking practically all the business offering and are making prices that will do it. We quote sand cast Bessemer Iron at \$15.40, Malleable Bessemer at \$14.50 to \$14.75 and Basic at \$14.50 to \$14.75, all at Valley furnace, or 90c. higher for Pittsburgh delivery. We quote No. 2 Foundry at \$14.50 to \$14.75, Valley furnace, but in some cases \$15 is obtained in small lots for preferred makes. Forge is very dull, and is nominally \$13.75, Valley furnace, but on a firm offer it is probable that \$13.50 could be done. sale has been made of 1000 tons of No. 2 Foundry, deliveries 250 tons a month from September, at \$14.50, Valley furnace, and another sale of 500 tons of Basic at about \$14.60, Valley furnace.

Steel.—The market is very dull, and there is little business offering in Billets or Sheet or Tin Bars. We quote Bessemer and Open Hearth Billets, 3% in. and larger, up to and including 0.25 carbon, \$25; 0.26 to 0.60 carbon, \$1 extra; over 0.60 carbon, \$2 extra, all f.o.b. Pittsburgh. For Wheeling, Martins Ferry, Follansbee, Newcastle, Sharon, Steubenville and Washington (Pa.) delivery, half the freight, or 50c, additional, is charged. Sheet and Tin Bars in random lengths are \$27, f.o.b. Pittsburgh. Forging Billets take \$2 advance over Rolling Billets.

(By Mail.)

While all signs point to better conditions in the Steel trade, there is a lull which is creating some uneasiness. It is not generally believed that the lull will continue long, but, on the contrary, the prevailing impression is that early in September there will be a more active buying movement in all lines than at any time this year. The inquiry of the Harriman interests for upward of 7000 Steel cars is still in the market. It is believed that the order will be eventually placed. There are also reports of large Rail orders pending, but nothing official has been given out. It is estimated that at present at least 50 per cent. of the Pig Iron and Steel making capacity is active, and this in spite of the fact that the railroads are buying practically nothing. The Pig Iron market is fairly active, but at the expense of prices. Bessemer, Basic and Foundry Iron have been sold in the past week at the lowest prices touched in this market for three or four years. Some large Pig Iron deals are

under way, and are expected to be closed in the next week or two, consumers being attracted by the low prices ruling. Not much new business is coming out in Billets, Sheet or Tin Bars, and mill shipments of the last have recently fallen off, owing to the decline in demand for Tin Plate. This week the Carnegie Steel Company is operating the Homestead Steel Works practically full in all departments, and at Youngstown the Republic and Youngstown Sheet & Tube companies are operating nearly full. The demand for Finished 1ron and Steel is fair, and inquiries for Structural Steel are showing betterment. Some large inquiries are in market for line Pipe, and the mills are fairly busy. Coke and Scrap trades are quiet, with prices on the latter only fairly steady.

Ferromanganese.-With little new inquiry the market is fairly steady. We quote 80 per cent. foreign Ferro for prompt delivery at \$43 to \$43.50, Baltimore, and for shipment over balance of this year at \$43.50 to \$44, the rate from Baltimore to Pittsburgh being \$1.95 a ton.

Ferrosilicon.-We quote 50 per cent. at about \$67.50. Pittsburgh, but no sales are reported.

Muck Bar.—Two or three fair sized inquiries are in the market, and a sale is reported of 400 to 500 tons on the basis of about \$25.50, Pittsburgh. We quote best grades of Muck Bar, made from all Pig Iron, at \$25.50 to \$26, Pitts-

Rods.—Sales of 1800 to 2000 tons of Basic Rods are reported at \$34, Pittsburgh. Inquiries for Rods are better than for some time, and a fair tonnage has been sold in the last two or three weeks. We quote Bessemer Rods at \$33, Basic \$34 and Chain Rods \$33, Pittsburgh.

Skelp.—The only local mill rolling Skelp is shut down at present, and may be idle for some time. There is a fair amount of inquiry, but no large tonnage has been sold. We quote: Grooved Steel Skelp, 1.45c. to 1.50c.; Sheared Steel Skelp, 1.50c. to 1.60c.; Grooved Iron Skelp, 1.60c. to 1.70c. and Sheared Iron Skelp, 1.70c. to 1.75c., f.o.b. Pittsburgh.

Steel Rails.—Local advices are that the Harriman inquiry for 28,000 tons has not yet been placed. The time is short, as it is understood that deliveries of the entire quantity are to be made in this and next month. No large orders are being placed by the railroads, and the belief is becoming stronger that there will not be much Rail buying this year. The demand for Light Rails is fairly active, and the two recent advances in prices are being held. The three Edgar Thomson Rail mills of the Carnegie Steel Company continue in operation to about 35 per cent. of capacity. Prices now generally quoted on Light Rails which, however, continue to be shaded about \$2 a ton by rerolling Rail mills, are as follows: \$25 for 25 to 45 lb. Sections, with \$1 advance for 20 lb.; \$2 advance for 16 lb., and \$4 advance for 12 lb. Standard Sections are \$28, at mill, and Angle Splice Bars, 1.65c., at mill. tity are to be made in this and next month. No large orders 1.65c., at mill.

Structural Material.—Inquiries are better than for some time, and a good deal of work is under way. Contracts taken during the week include about 2000 tons for replacement of a part of the Panhandle Railroad bridge at Steubenville, 2000 tons, which went to the Pennsylvania Steel Company. The American Bridge Company has re-ceived about 800 tons of material for the new Oliver Building, which it will fabricate at its shops at Ambridge, Pa. The Riter-Conley Mfg. Company has taken about 1000 tons for a new boiler shop for the Heine Safety Boiler Company, St. Louis. Inquiries will be out in a few days for the First National Bank Building, Fifth avenue and Wood street, National Bank Building, Fifth avenue and Wood street, Pittsburgh, and there will be two propositions, one for a five-story structure, about 1200 tons, to be used for banking purposes, exclusively, and the other for a 25-story building, for bank and office purposes, 4500 tons. It is probable that the smaller building will be the one selected. Complaint is still heard of the very low prices ruling for fabricated work, which give rise to the suspicion that full prices are not which give rise to the suspicion that full prices are not always paid for the plain Material. We quote as follows, f.o.b. mill, Pittsburgh: I Beams, H Beams and Channels, 3 to 15 in., inclusive, 1.60c., net; Beams, over 15 in., 1.70c., net; Angles, 3 to 6 in., inclusive, ½ in. and up, 1.60c., net; Angles, over 6 in., 1.70c., net; Angles, 3 x 3 in. and up, less than ¼ in., 1.50c., base, half extras, Steel Bar card; Tees, 3 in. and up, 1.65c., net; Zees, 3 in. and up, 1.60c., net; Angles, Channels and Tees under 3 in., 1.50c., base, half extras, Steel Bar card; Deck Beams and Bulb Angles, 1.90c., net; Hand Rail Tees and Z-19, 3c., net; Checkered and Corrugated Plates, 3c., net.

Sheets.--An increased demand is reported for Corru-Sheets.—An increased demand is reported for Corrugated Sheets, and there are some fair sized inquiries in the market. In a general way, the Sheet trade is unsatisfactory as regards volume of business, but prices are being fairly well maintained. The American Sheet & Tin Plate Company started up yesterday its Hyde Park Works, containing five hot mills, and is now running to a little over 60 per cent. of capacity. For mill shipment we quote: Blue Annealed Sheets, No. 10 and heavier, 1.80c.; Nos. 11 and 12, 1.85c.; Nos. 13 and 14, 1.90c.; Nos. 15 and 16, 2c.; Box Annealed, Nos. 17 to 21, 2.25c.; Nos. 22 to 24, 2.30c.; Nos. 25 and 26, 2.35c.; No. 27, 2.40c.; No. 28, 2.50c.; No. Nos. 25 and 26, 2.35c.; No. 27, 2.40c.; No. 28, 2.50c.; No.

29, 2.60c.; No. 30, 2.70c. Galvanized Sheets: Nos. 10 and 11, 2.45c.; Nos. 12 and 14, 2.55c.; Nos. 15 and 16, 2.65c.; Nos. 17 to 21, 2.80c.; Nos. 22 and 24, 2.95c.; Nos. 25 and 26, 3.15c.; No. 27, 3.35c.; No. 28, 3.55c.; No. 29, 3.70c.; No. 30, 3.95c.; No. 28, Painted Roofing Sheets, \$1.75 per square, and Galvanized Roofing Sheets, No. 28, \$3.10 per square, for 21½-in. corrugations. These prices are subject to a rabete of 50 per 100 lb. to the large trade under the usual square, for 2½-in. corrugations. These prices are subject to a rebate of 5c. per 100 lb. to the large trade under the usual enditions, jobbers charging the usual advances for small lots from store,

-A fair amount of new business is being placed in Plates from the general trade, and it is believed that con-sumption is a little heavier, as consumers are buying more freely and in larger quantities. Prices are being well maintained, but are sometimes slightly shaded by some of the smaller outside mills that do not make the larger sizes. quote, Tank Plates, ¾ in. thick, 6¼ in. up to 100 in. wide, 1.60c., base, at mills, Pittsburgh. Extras over this price are as follows:

Tank, Ship and Bridge quality, ¼ in. thick on edges, 100 in. wide, down to but not including 6 in. wide, is taken as base. Steel Plates up to 72 in. wide, inclusive, ordered 10.2 lb, per square foot, shall be considered ¼-in. Plate. Steel Plates over 72 in. wide must be ordered ¼-in. thick on edge, or not less than 11 lb. per square foot, to take base price. Steel Plates over 72 in. wide ordered less than 11 in. per square foot down to the weight of 3-16-in. shall take the place of 3-16-in.

Percentages as to overweight on Plates, whether ordered to gauge or weight, to be governed by the Association of American Steel Manufacturers' Standard Specifications.

Gauges under ¼-in. to and including 3-16-in. Plates

Gauges under 1/4-in. to and including 3-16-in. Plates	
on thin eages\$0.10	
Gauges under 3-16-in, to and including No. 8	
Gauges under No. 8 to and including No. 927	
All sketches (excepting straight taper Plates vary-	
ing not more than 4 in. in width at ends, nar-	
rowest end being not less than 30 in.)	
Complete Circles	
Boiler and Flange Steel Plates	
"A. B. M. A." and ordinary Firebox Steel Plates	
Still Bottom Steel	
Marine Steel	
Locomotive Firebox Steel	
Shell grade of Steel is abandoned.	
Elea widths over 100 in an 4, 110 in	
For widths over 100 in. up to 110 in	
For wid hs over 110 in. up to 115 in	
For widths over 115 in. up to 120 in	
For widths over 120 in. up to 125 in	
For widths over 125 in. up to 130 in	
For widths over 130 in	
TERMS Net cash 30 days. Pacific Coast base, 1.50c.,	1.0.

Tin Plate.-Not much new business is being placed, only a few scattering orders now being received by the mills.

About 50 per cent. of the entire Tin Plate capacity is active at present. Prices continue firm, and we quote at \$3.70 for 100-lb. Cokes, 14×20 , f.o.b. Pittsburgh, terms 30 days, less 2 per cent. off for cash in 10 days, this price being subject to the usual rebate of 5c. per base box in large lots.

Hoops and Bands.—A fair volume of new business is being placed in small orders for actual needs, but shipments by the mills are largely on specifications against contracts. Regular prices are as follows: Steel Hoops, 1.80c., base, full Hoop card prices; Steel Bands, 1.40c., base, half Steel card extra, all fo.b. cars, Pittsburgh, in carload lots, for delivery during 1908.

Bars .- Specifications against the heavy contracts placed in June are now being received by the mills in fairly large volume, and shipments are greater than at any time this year, with prospects good for increased activity in the next two or three weeks. A little better demand is reported for Increased activity in the next two or three weeks. A little better demand is reported for Iron Bars, and the mills are able to operate to about half capacity. We quote Iron Bars at 1.40c., base, for Pittsburgh delivery, and 1.35c., base, for Western points, to which freight is added, except Chicago, the price for which is 1.50c., delivered. We quote Steel Bars at 1.40c., Pittsburgh, for page sizes for base sizes.

Merchant Steel .- Most of the heavy busines from the implement makers has been placed, and specifica-tions against these contracts are now being received by the The demand for Shafting mills is a fairly large volume. quiet, and existing discounts are sometimes slightly shaded. We quote: Cold Rolled Shafting, on contracts for 100 tons and over, 57 per cent. off; carloads, 56 per cent. off, and less than carloads, 52 per cent. off, on which carload freight is allowed within base territory. Smooth Finished Machinery allowed within base territory. Smooth Finished Machinery Steel, 1.80c. to 1.90c.; Flat Sleigh Shoe, 1.75c. to 1.85c. Steel, 1.80c. to 1.90c.; Flat Sleigh Shoe, 1.79c. to 1.89c.; Cutter Shoe Steel, 2.15c. to 2.25c.; Toe Calk, 1.90c. to 1.95c.; Railroad Spring Steel, 1.60c. to 1.75c., the higher price being for Pennsylvania Railroad analysis. Carriage Spring Steel is 1.80c.; Tire Steel, Iron finish, 1½ x ½ in. and heavier, 1.40c.; under 1½ in., 1.55c. Planished Tire Steel is 1.60c., all f.o.b., at mill.

Railroad Spikes .- Several large inquiries are in the market, but no heavy orders have been placed for some time, and all the mills making Spikes are short of work. We quote: Standard sizes, $4\frac{1}{2} \times 9.16$ in., at \$1.70, and the smaller sizes at \$1.80 per 100 lb. in carload and larger lots, vith an advance of 5c. per 100 lb. for less than carload, f.o.b. Pittsburgh.

Merchant Pipe.—Press reports regarding the line Pipe being placed by the Standard Oil Company with the National

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Tube Company are usually much exaggerated. It is true that the latter company furnishes Pipe to the Standard Company right along, but no contracts out of the ordinary have recently been placed. Some time ago the Standard Company placed an order with the National Company for 550 miles of 6-in. line Pipe, on which shipments have been nearly completed. There is a good deal of inquiry for line Pipe, the Kansas Gas & Cement Company being in the market for 25 miles of 6-in., for the Emporia, Kan., field, and the United Gas Company of St. Catherines, Canada, for 25 miles of 6½-in., casing. Discounts on Steel Pipe. ¾ to 6 in. miles of 6¼-in. casing. Discounts on Steel Pipe, ¾ to 6 in., to the large trade, are now 76 and 5 per cent. off list. Regular discounts are as follows:

	Me	rchant	t Pipe.	Jobbers, c	arloads
				Stee	
				Black.	Galv.
	1/4 to 1/4 in			67	51
	% in			69	55
	½ in			71	59
	% to 6 in				65
	7 to 12 in			72	57
	Extra strong, plain				
	% to % in			60	48
	½ to 4 in			67	55
	41/2 to 8 in			63	51
	Double extra strong,	plain	ends:		
	1/2 to 8 in			56	45
	/-				
118	scounts on Genuine Ir	on Pi	pe are as	follows:	
				Black.	Galv.
				%	%
	1/4 to 1/4 in			65	
	% in				53
	½ in			69	57
	% to 6 in			73	63
	7 to 12 in				55
	Extra strong, plain				
	1/8 to 3/8 in			58	46
	½ to 4 in			65	53
	41/4 to 8 in			61	49
	Double extra strong,				
	1/4 to 8 in			54	43
	12 co o sec				40

Boiler Tubes.—The railroads are placing some scattering orders for Locomotive Tubes, and bookings for this product have picked up a good deal in the last month or so. There is also a little better demand for Merchant Tubes, but consumers are still confining their orders to small lots for actual needs. Regular discounts on Merchant Tubes in small lots, on which an extra 5 per cent. is allowed in carloads, but which discounts are being shaded, are as follows:

Boiler Tubes.	
Iron.	Steel.
1 to 1½ in42	47
1% to 2% in	59
2½ in	61
28 to 5 in	65
6 to 13 in	59
21/2 in, and smaller, over 18 ft. long, 10 per cent. net	extra.
28% in and larger over 22 ft. long. 10 per cent, net e	TITA.

Spelter.—The market has reacted from the sharp advance of a week or two ago and is five points or more lower. We quote prime grades of Western Spelter at 4.60c., East St. Louis, and on a firm offer and for a large tonnage this price might be shaded several points.

Iron and Steel Scrap.—At present there is a lull in the Scrap trade, and the tone of the market is only fairly strong. A number of leading consumers, such as the Pittsburgh Steel Company, Page Woven Wire Fence Company, Sharon Steel Hoop Company and others are pretty well filled up with Scrap, and are not in the market. It is stated that the Pittsburgh Steel Company has upward of 25,000 tons piled up in its yards at Monessen, Pa., which will keep it running for several months. This company has will keep it running for several months. This company has built an open hearth plant having eight 60-ton furnaces, of which four are in operation. When the plant is running full, it will use about 500 tons of Scrap a day and about the same tonnage of Basic Pig Iron. Dealers quote, per gross ton, as follows: Heavy Steel Scrap, for Pittsburgh, Sharon and Steubenville delivery, \$15 to \$15.50, most dealers refusing to shade \$15.25; Cast Iron Borings, \$9.25 to \$9.50; No. 1 Railroad Wrought Scrap, \$15 to \$15.25; No. 1 \$9.50; No. 1 Railroad Wrought Scrap, \$15 to \$15.25; No. 1 Cast, \$14.50 to \$14.75; Bundled Sheet Scrap, \$12.25 to \$12.50; Sheet Bar Crop Ends, \$18 to \$18.25; No. 1 Busheling Scrap, \$13.50 to \$14; No. 2, \$10 to \$10.50; Iron Axles, \$21 to \$21.50; Steel Axles, \$18.50 to \$19; Low Phosphorus Melting Stock, 0.04 and under, \$19 to \$19.50; Rerolling Rails, \$16.50; Machine Shop Turnings, \$10.25 to \$10.50; Grate Bars, \$13 to \$13.25; Railroad Malleable, \$14 to \$14.25; Old Car Wheels, \$14.50 to \$15. \$14.25; Old Car Wheels, \$14.50 to \$15.

\$14.25; Old Car Wheels, \$14.50 to \$15.

Coke.—Some improvement is reported in the demand for Furnace Coke, but prices continue low. In fact, both Furnace and Foundry Coke are selling to-day at the lowest prices touched for several years. All the Coke regions are suffering severely from a famine in water supply, and one or two plants have been compelled to close down. Unless heavy rains come soon a number of others will be compelled to close. We quote strictly Connellsville Furnace Coke for prompt delivery at \$1.50 to \$1.55, and on contracts \$1.65 to \$1.75, at oven. Connellsville 72-hr. Foundry Coke is held at \$1.90 to \$2.25, at oven. Outside makes of Furnace Coke for prompt shipment are quoted at \$1.35 and lower, at oven. for prompt shipment are quoted at \$1.35 and lower, at oven, and Foundry Coke from \$1.75 to \$1.90, at oven. The output of Coke in the Upper and Lower Connellsville regions last week was 192,845 tons, a gain over the previous week of about 3000 tons.

Philadelphia.

PHILADELPHIA, PA., August 18, 1908.

Buying in the local Iron and Steel markets is extremely at. Characteristic midsummer dullness appears to be the leading feature, and the trade on the whole seems to be pretty generally affected by the vacation season. Not much improvement is expected the balance of the month, but the trade generally is decidedly optimistic regarding the future and a resumption in buying is looked for early in September. In some branches of Finished Materials the gains made by the mills during the past month are being fully maintained. Some little scattered railroad business has been placed and more is pending, so that the outlook in this direction shows some improvement.

Pig Iron.—A certain volume of business for prompt shipment continues to come out, but the tonnages are usually small, although sales in the aggregate reach a fair total for the season. Sales of the Foundry grades for deliveries ex-tending up to the end of September predominate, on which eastern Pennsylvania sellers as a rule maintain established prices pretty firmly. Some shading for desirable lots is rumored on the part of the same interests which were cutting prices earlier in the year, but it is understood to have extended to a few old customers only. When such concessions sions are made, however, the facts are so carefully guarded that authentic information regarding them is hard to obtain. The basis of \$16, at furnace, for No. 2 X Foundry con-X Foundry con-The basis of \$16, at furnace, for No. 2 X Foundry continues to be held by the leading eastern Pennsylvania producers, and some ask higher figures. As a rule \$16.50, delivered, can be done for standard No. 2 X Foundry for shipment over the remainder of the third quarter, with \$16.75 to \$17 asked for some brands. For delivery through the last half of the year the same grade commands from \$16.75 to \$17.25, with \$16.75 to \$17.50 asked for strictly fourth quarter delivery, dependent on brand and tonnage. Inquiry for delivery over the last four months of the year fourth quarter delivery, dependent on brand and tonnage. Inquiry for delivery over the last four months of the year shows an improvement, with some feeling of the market for part of 1909, but sellers usually withhold quotations for such extended deliveries. The Cast Iron Pipe interests continue in the market for low grade Irons for shipment during the fourth quarter, one concern having an inquiry out for 10,000 tons, while others would buy smaller quantities if they could be had at what they consider right prices. Southern Iron shows decided strength; prices have been marked up, and some of the furnaces are now practically out of the market. Sales of Southern in this territory have been rather light, with some small lots for August and Senout of the market. Sales of Southern in this territory have been rather light, with some small lots for August and September delivery reported on both a \$12 and \$12.50, Birmingham basis, for No. 2 Foundry. Virginia Irons have not been active, but several lots of Nos. 2 X and 2 Plain of a few hundred tons each have been sold for delivery in this territory, with light sales to New England and the Middle West, all at full prices. Some further inquiry is to be noted for Forge Iron, but sales have been light and \$15, delivered, is about the best that can be done for this grade, although some High Sulphur Iron might be had at a slightly lower figure. Steel makers continue in the market for both Basic and Low Phosphorus Iron. A further inquiry for 5000 tons of Basic for the last quarter is announced, but no new business has developed in Low Phosphorus, and the former inquiries for this grade are still pending. Melters as a rule inquiries for this grade are still pending. Melters as a rule do not seem to be inclined to place orders hurriedly nor do sellers show any tendency to force the market. Prices continue firm and appear to be gaining strength, and the trade anticipates a further buying movement early in the coming month. Quotations are practically unchanged, ranging as follows for delivery in buyers' yards, eastern Pennsylvania and adjoining territory, for the balance of the third quarter:

Eastern Pennsylvania, No. 2 X Foundry. \$16.50 to \$17.00 Eastern Pennsylvania, No. 2 Plain. 16.00 to 16.50 Virginia, No. 2 X Foundry. 17.00 Virginia, No. 2 Plain. 16.50 to 16.75 Gray Forge. 15.00 to 15.50 Basic. 15.00 to 15.25 Low Phosphorus. 21.00 to 21.25

Ferromanganese.—Few inquiries have come out, and

Ferromanganese.-Few inquiries have come out, offerings by merchants meet with little or no response on the part of consumers. Prices are practically unchanged, and for prompt delivery range from \$43.50 to \$44, at seaboard, with \$45.50 to \$46.50, for delivery over the balance of the

-Some few orders have been placed, but Steel Billets .the tonnages continue small, and practically all the business has been for prompt shipment. The situation, on the whole, shows no particular improvement, and mills do not find much encouragement in the outlook for business in the near future. Prices are unchanged, ordinary Rolling Steel for delivery in this territory being quoted at \$26.20, with Forging Steel at \$28.20, subject to the usual extras for high carbons and special sizes.

Plates.—Orders are coming out quite freely, although individually small in size. Mills report a good aggregate,

however, and continue to show slight gains in production. Specifications are more numerous and cover a miscellaneous class of work. Shipyards are taking some fair quantities of Plates, while numerous small lots are being ordered by boiler and bridge shops. A small run of orders from some of the railroads continues, this class of orders being largely for tepair work. Prices are unchanged, the following quotations being named for delivery in this territory:

	Carloads.	Parts carload.
	Cents.	Cents.
PH 1 P-13 2 P-14 CH-1	Cents.	
Tank, Bridge and Boat Steel	1.75	1.80
Flange or Boiler Steel	1.85	1.95
Commercial Firebox	1.95	2.00
Marine		2.20
Locomotive Firebox Steel	9.95	2.30
The above and been unless for 1/ la and 1	· · · · · · · · · · · · · · · · · · ·	
The above are base prices for 4-in. and l	neavier.	The follow-
ing extras apply:		Extra per
		100 lb.
3-16-in. thick		\$0.10
Nos. 7 and 8, B. W. G		15
No. 9, B, W, G		25
Plates over 100 to 110 in		05
Plates over 110 to 115 in		.10
Diates over 110 to 110 m		
Plates over 115 to 120 in		15
Plates over 120 to 125 in		25
Plates over 125 to 130 in		50
Plates over 130 in		1.00

Structural Material.—Immediate purchases continue along narrow lines, but the outlook is better. The Pennsylvania Railroad is in the market for some round lots in the way of bridge material, and a number of moderate inquiries for building material are before the trade. A good portion of these are expected to develop into orders early in the coming month. Prices are being fully maintained, quotations for delivery in this territory ranging from 1.75c. to 1.90c., according to specification.

Sheets.—A fairly even demand continues, and mills have been able to maintain production at about full capacity. The usual run of business is still small, and but few orders for heavy quantities or for extended delivery come out. Prices are firm, quotations for mill shipments ranging as follows, a tenth being added for small lots: Nos. 18 to 20, 2.50c.; Nos. 22 to 24, 2.60c.; Nos. 25 to 26, 2.70c.; No. 27, 2.80c.; No. 28, 2.90c.

Bars.—The market for Refined Iron Bars is gradually growing stronger. Mills are booking better orders, and prices show more firmness. While several weeks ago prompt shipment could be had at 1.35c., delivered, in this territory, hardly any mill will now do better than 1.40c. to 1.45c., and some of the better grades are being held firmly, at 1.50c., delivered. There seems to be more disposition on the part of buyers to contract for forward shipment, but some mills will only take such business at the top price. Steel Bars have not been active, and are quoted at 1.55c., with Rerolled Bars at 1.50c., delivered, in this territory.

Coke.—The demand has been somewhat irregular. Sales of Foundry Coke, for delivery during the balance of the year, have been made at unchanged prices, but in no case have the contracts been large. Furnace Coke is dull, no sales of any consequence being reported. Prices are unchanged, Foundry Coke being quoted at \$2.15 to \$2.35, at oven, and Furnace Coke at \$1.50 to \$1.75, at oven. For delivery in this territory quotations range about as follows:

	3	 	
Connellsville Furnace	Coke	 .\$3.65	to \$3.90
Foundry Coke			
Mountain Furnace Col			
Foundry Coke		 . 3.90	to 4.10

Old Material.—Buyers and sellers appear to be as wide apart in their views regarding prices of some grades of Scrap, as they have been for the past few weeks. The market is stronger sentimentally, and prices of some grades have again been marked up on small sales. Consumers of Heavy Melting Steel still keep out of the market, while holders of this grade refuse to sell any large tonnage at the present level. Rolling Mill Scrap has been taken more freely, but, owing to considerable quantities being held in storage in dealers' yards, an apparent shortage has developed in some grades. Under the circumstances, actual quotations are hard to name, the business transacted in many cases having been entirely between dealers, and the prices tabulated below for delivery in buyers' yards, eastern Pennsylvania and nearby territory, are largely nominal:

١	action controlly and magely are	
	No. 1 Steel Scrap and Crops\$14.50 to \$15.00	
	Low Phosphorus	
	O'd Steel Axles	
	Old Iron Axles 22.50 to 23.00	
	Old Iron Rails	
	Old Car Wheels 15.00 to 15.50	
	Choice No. 1 R. R. Wrought 17.75 to 18.25	
	Machinery Cast 14.50 to 15.00	
	Railroad Malleable 13.00 to 13.50	
	Wrough' Iron Pipe	
	New Bundled Sheets	
	No. 1 Forge Fire Scrap 12.00 to 12.50	
	No. 2 Light Iron 8.50 to 9.00	
	Wrought Turnings 11.00 to 11.50	
	Stove Plate 13.00 to 13.50	
	Cast Borings 10.25 to 10.75	
	Grate Bars 13.00 to 13.50	

Pilling & Crane, Iron, Steel, Ore, Coal and Coke merchants, who have been located in the Girard Trust Building,

will remove September 1 to rooms 1405 to 1412, inclusive, in the Real Estate Trust Building, southeast corner of Broad and Chestnut streets, Philadelphia.

Cleveland.

CLEVELAND, OHIO, August 18, 1908.

Iron Ore.—Some buying of Ore has taken place the past week, but all in small lots, the largest reported being 35,000 tons. The market does not yet show the improvement that the merchant firms had expected for August. Sellers are warning buyers not to delay their purchases much longer. They say that unless purchases are made soon consumers will be disappointed in not getting all the Ore they want before the close of navigation shuts off shipments. The movement down the lakes shows little improvement, and August shipments will not be much larger than those in July. Shipments have been delayed somewhat the past week by the strike of the dock workers at Superior and Marquette. At the former port many of the old men have returned to work, and the strike is said to be practically over. A steady run of shipping orders for last year's Ore on the docks continues to come from furnace interests that have not yet bought any 1908 Ore, but shipments from the docks are less than the new tonnage that is being placed on the dock stockpiles, so that space is getting quite scarce and boats are delayed in unloading their cargoes. The lake trade, taken as a whole, shows a little improvement, and vesselmen are making preparations to place a few more boats in commission. Ore prices at Lake Erie docks, per gross ton, are as follows: Old Range Bessemer, \$4.50; Mesaba Bessemer, \$4.25; Old Range non-Bessemer, \$3.50.

Pig Iron.—A moderate volume of buying continues in this territory. Sales and inquiries, however, are limited almost entirely to Foundry Iron. Among the sales of the week were several lots, ranging from 100 to 500 tons, to local consumers for the balance of the year delivery. The Eastern demand for Foundry Iron continues quite active, and a local interest reports a number of such sales in lots ranging from carloads to 1500 tons. Prices remain about stationary. We quote No. 2 Northern Foundry at \$15.25 to \$15.50, delivered, Cleveland. The present established price in the Valley for No. 2 Foundry seems to be \$14.50, although some tonnage was sold during the week on the basis of \$14.40, Valley furnace, for No. 2. Some of the Valley interests are refusing to quote as low as the present ruling prices, continuing to ask not less than \$14.75 for No. 2. Corrigan, McKinney & Co. have placed in blast their two furnaces, which have been idle several months. Their Josephine Furnace was blown in last week, and their Genesee Furnace went in blast a few days previously. The melt of Foundry Iron in this territory continues to improve slowly, and the August consumption is expected to be considerably larger than that of July. The Bessemer and Malleable Iron market is quiet, and inquiries for Basic, which were quite active for a week or two, have disappeared. Local sales agents quote Southern Foundry Iron at \$12.50, Birmingham, for No. 2, but no sales are reported. For prompt shipment and for the balance of the year we quote, delivered, Cleveland, as follows:

Bessemer								0		٠		. \$16	.30	to	\$16.50
Northern	Foundry.	No.	1				9					. 15	.50	to	16.00
Northern	Foundry,	No.	2					0			۰	. 15	.25	to	15.50
Northern	Foundry.	No.	3							٠	۰	. 14	.90	to	15.25
Southern	Foundry.	No.	2.												16.35
Gray For	ge					0	0	0	0	0		. 14	.25	to	14.65

Coke.—The market continues quiet, and prices are stationary. On contract for the balance of the year we quote standard Connelsville Furnace Coke at \$1.65 to \$1.75, at oven, and 72-hr. Foundry Coke at \$2 to \$2.25, at oven.

Finished Iron and Steel.—While only a moderate volume of new business is being placed, the demand continues to show some improvement and the outlook is regarded as encouraging. Specifications continue to come in in a satisfactory manner on recent contracts. The implement makers are specifying freely for Steel Bars, and there is a fair volume of specifications from other manufacturers, a number of whom have recently received some good contracts. There is a decided improvement in the demand from boiler shops, some fairly good orders having been placed for Plates and Boiler Tubes. Among the inquiries from this source is one for 3000 to 4000 tons of Structural Shapes. The demand for Iron Bars shows a little improvement, some new contracts being closed. Prices are rather weak, concessions being reported for Western shipments. An improvement is seen in inquiries for Structural Material in small lots for building purposes. Fabricators are still quoting low prices on Structural work. The demand for Billets shows an improvement. Some orders for Forging Billets were placed during the week in addition to a number of car lot sales at \$27.75, base, delivered, Cleveland. There is a slight improvement in the demand for Sheets, some orders coming from the railroads for repair work. The prices of Sheets and Plates are being fairly well maintained. Some interurban traction projects are pending, but it is not expected that any of them will result in the placing or Rail orders this sea-

son. Jobbers report quite an improvement in both warehouse business and mill orders, the latter being mostly for small lots for immediate needs. Warehouse prices are being firmly maintained. We quote Iron Bars at 1.45c., Cleveland, for car lots; Steel Bars, 1.50c., Cleveland, for car lots; Beams and Channels, 1.70c., base, Cleveland, and Plates, ¼-in. and heavier, 1.70c., Cleveland. We quote Sheets, mill shipments, car lots, Cleveland, as follows: Blue Annealed, No. 10, 1.90c.; Box Annealed, No. 28, 2.60c.; Galvanized, No. 28, 3.65c. Jobbers quote Iron and Steel Bars out of stock at 1.65c. to 1.70c. Beams and Channels from warehouse are 2c., and Plates, ¼-in. and heavier, 1.90c. Warehouse prices on Sheets are as follows: Blue Annealed, No. 10, 2.10c.; Box Annealed, No. 28, 2.70c.; Galvanized, No. 28, 3.80c. Warehouse prices on Boiler Tubes, 2¾ to 5 in., are 64 per cent. discount, and on Black Merchant Iron Pipe, base sizes, 71 per cent. discount.

Old Material.—The market is not quite as firm as it has been, particularly in Iron Scrap. Local mills are pretty well stocked up and are not buying much at present. Yard dealers are still accumulating considerable Old Material which they are holding for better prices. Dealers say they cannot buy Scrap at prices that would allow them to sell it below the present market quotations. Dealers' prices to the trade, per gross ton, are as follows, f.o.b. Cleveland:

Old Steel Rails\$	14.00 to	\$14.50
Old Iron Rails	17.00 to	17.50
Steel Car Axles	18,00 to	18.50
Old Car Wheels	15,00 to	15,50
Relaying Rails, 50 lb. and over		
Railroad Malleable	13 50 to	14.00
Agricul.ural Malleable	12.00 to	12.50
Light Bundled Sheet Scrap		

The following quotations are per net ton, f.o.b., Cleveland:

Iron Car Axles	to \$18.00
Cast Borings 7.00	to 7.50
	to 8.50
	to 9.00
No. 1 Busheling 11.50	
No. 1 Railroad Wrought 13.50	
No. 1 Cast	to 13.00
Stove Plate 10.00	to 10,50
Bundled Tin Scrap 8.00	to 9.00

Cincinnati.

CINCINNATI, OHIO, August 19, 1908.—(By Telegraph.)

Accepting the general opinion that the railroads must furnish the backbone of trade in the anxiously awaited revival, recent developments in that quarter suggest encouragement. The International Railroad Master Blacksmiths' Association is in session here this week, and as these men are in very close touch with working conditions, their observations are of interest. A composite opinion from expressions on the subject indicates that the roads are venturing cautiously along improvement lines in hours and forces, and that since August 1 there is perceptible improvement in almost all parts of the country. The greatest gain is seen in the repair departments, where there is developing a real activity. A better feeling exists among the supply men also, representing prominent concerns exhibiting at the convention. In the Pig Iron markets there is not the actual buying that prevailed last week, but the Southern companies have stiffened up on their product, and the greater number of them claim to have withdrawn from the market altogether, or are naming the prohibitive price of \$13, Birmingham, for No. 2.

Pig Iron.—The local market is not so active, and both buyers and manufacturers seem to have settled back into the relatively independent position of a few months ago. Inquiries have slumped off considerably since Southern makers jumped the price from \$11 and \$11.50, to \$12.50 and \$13, and the conviction seems to prevail that the very light consumption, coupled with the heavy buying of a few weeks ago, must of necessity bring about a condition to develop lower prices on Iron and comparatively soon. There is no change to be noted in the price of the Northern product, save that evidences of shading continue to accumulate in recording sales of Valley Iron. High Silicons have stiffened up a little at the prevailing price of \$18.50 for 8 per cent., along with which comes a rumor that the newest furnace in Jackson County has not yet definitely decided upon a date for its initial blast. One of the largest local agencies announces that it has nothing to offer in Foundry Irons for less than \$13, Birmingham, for No. 2. The largest merchant interest in the Alabama District, which is represented in that office, announces withdrawal from the market, and will require submission of all business for confirmation. Rockwood is said to be sold up with practically 40,000 tons booked ahead. It is authoritatively stated that orders for 10,000 to 20,000 tons have been turned down at \$12, although it is believed that there may still be obtained some Tennessee Iron in small lots at that figure. No prices are obtainable on next year's deliveries. Prominent dealers in Scrap continue to interest themselves in the Pig Iron markets, and a number of deals are in negotiation for quite a considerable tonnage. Some interests, however, refuse to entertain offers from this class of business, preferring to limit their deliveries to

consuming interests. A large producer of Iron in the southern and central Ohio districts here to-day estimates a total of 24,000 to 25,000 tons of Foundry Iron on furnace yards at present in the Hanging Rock and Ironton districts, exclusive of Ashland. Of this amount, a large Cincinnati agency owns or controls about half. There is some inquiry for Car Wheel Irons. Standard Southern is quoted \$19 to \$19.50, for Nos. 1 and 2, and \$20 for chilling grades, at furnace. Some fairly good sales of Basic have been made. Southern Basic selling at about \$12 to \$12.50. Bessemer, which is dull, is quotable at about \$15.40, Valley Furnace. The Standard Sanitary Mfg. Company is in the market again for several thousand tons, for November and December delivery, of which a goodly portion is said to be Forge Iron because of failure of the furnace to acquiesce in the reported price of at least 25c, below the market. A large manufacturer of machine tools in southern Ohio is asking for prices on 3000 tons, half each of Northern and Southern Foundry, for the last half. The Pennsylvania Railroad has ordered some Iron for delivery to its Altoona shops on an old contract. Some Michigan concerns want some Malleable. A central Ohio manufacturer is asking for some No. 2 Foundry, and some High Silicon and Manganese Iron. For immediate delivery, and extending into the fourth quarter, we quote, f.o.b. Cincinnati, as follows, freight rates being, from Hanging Rock District, \$1.20, and from Birmingham, \$3.25:

Southern Coke, No. 1	25
Southern Coke, No. 2 15.25 to 15.	75
Southern Coke, No. 3 14.75 to 15.	25
Southern Coke, No. 4 14.50 to 15.	
Sou hern Coke, No. 1 Soft 15.75 to 16.	
Southern Coke, No. 2 Soft 15.25 to 15.	
Southern Coke, Gray Forge 14.00 to 14.	50
Ohio Silvery, 8 per cent. Silicon	70
Lake Superior Coke, No. 1 16.70 to 17.	20
Lake Superior Coke, No. 2 16.20 to 16.	70
Lake Superior Coke, No. 3 15.70 to 16.	
Standard Southern Car Wheel 22.25 to 22.	
Lake Superior Car Wheel 21.75 to 22.	25

(By Mail.)

Coke.—The market is particularly active in Furnace grades; the strike troubles in Alabama reflecting strongly in the Virginia, where the Wise County product is said to be practically sold up for the balance of the year at the present rate of production. Connellsville Foundry grades are also stronger, the price ranging from \$2 to \$2.25 on spot and extended business. Wise County Furnace Coke is selling at \$1.90 to \$2, at oven, for shipment within 30 days or so. Pocahontas brands are also advancing; Furnace Coke, which was rominally \$1.50, at oven, now bringing \$1.60 to \$1.75. Contracting is now running in 2000 to 5000 ton orders, although there are some 10,000-ton contracts teing negotiated.

Old Material.—It is still a dealers' market, and the large traffickers in Scrap are keeping an eye on the Pig Iron markets, with a frequent purchase arising from a speculative spirit purely. Rolling mills in this section made some heavy purchases earlier in the year, and since then have bought directly from the railroads. There is still some fairly good buying of Heavy Melting Steel Scrap. Foundries are taking but little interest in the Scrap markets. There have been some inquiries for Old Car Wheels and also for Old Steel Rails, but little buying has resulted, there being a wide difference of opinion between buyer and seller in the matter of prices. We quote dealers' prices, f.o.b. Cincinnati, as follows:

No. 1 R. R. Wrought, net ton	10.75 to	\$11.75
Cast Borings, net ton	4.50 to	5.00
Heavy Melting Steel Scrap, gross ton	12.00 to	
Steel Turnings, net ton	5.50 to	6.50
No. 1 Cast Scrap, net ton	11.00 to	12.00
Burnt Cast, net ton	8.00 to	9.09
Old Iron Axles, net ton	14.50 to	15.50
Old Iron Rails, gross ton	13.00 to	14.00
Old Steel Rails, long, gross ton	11.50 to	12.50
Old Steel Rails, short, gross ton	11.50 to	12.50
Relaying Rails, 56 lb, and up, gross ton.	19.00 to	20.00
Old Car Wheels, gross ton	12.50 to	13.00
Low Phosphorus Scrap, gross ton	13.00 to	14.00

Finished Iron and Steel.—Business with all local concerns shows improvement, although conditions are not yet near normal. The feature of this market is the frequency of "hurry shipment" coming from all directions. Stocks have been allowed to run so low in the country stores and smaller manufacturing establishments that any business at all necessitates quick action. There has been no change in store prices, and none is contemplated. A noticeable increase is observed in the inquiry for Hoops and Bands; one large concern reporting an increase of 25 per cent. in these lines in the past 30 days. The shops making a specialty of railroad repair work are giving out some business in Iron Bars, and an improvement is noticed also in Steel Bars. The demand for Structural Material shows a little improvement. Dealers' prices to the trade are as follows, f.o.b. Cincinnati: Iron Bars, carload lots, 1.65c., base, with half extras; small lots from store, 1.85c., base, half extras; Steel Plates, carload lots, 1.75c., base, half extras; Base Angles, carload lots, 1.85c., base; small lots from store, 2.10c.; Beams, Channels and Structural Angles, 1.85c., base; small lots from

store, 2.10c.; Plates, ¼-in. and heavier, carload lots, 1.85c.; small lots from store, 2c.; Blue Annealed Sheets, heavy, No. 16, carload lots, 2.15c.; small lots from store, 2.50c.; No. 14, carload lots, 2.05c.; small lots from store, 2.40c.; No. 10, and heavier, carload lots, 1.95c.; small lots from store, 2.20c.; No. 12, carload lots, 2.6c.; small lots from store, 2.30c.; Sheets (Light), Black, No. 28, carload lots, 2.65c.; Galvanized Sheets, No. 28, carload lots, 3.70c.; Steel Tire, 4-in. and heavier, carload lots, 1.95c.; Plates, 3-16 and No. 8, carload lots, 2c.; small lots from store, 2.20c.

Rome Furnace at Rome, Ga., operated by Thomas J. Deane, blew in August 3, on Foundry Iron. The capacity of this furnace, the output of which is sold exclusively by Rogers, Brown & Co., is 2500 tons per month. The product is marketed under the name Silver Creek. The furnace had been out of blast since last October.

The Haley & Black Company is a new incorporation, to handle Big Lyne and Color The effects are at a W. Haley.

The Haley & Black Company is a new incorporation, to handle Pig Iron and Coke. The officers are J. W. Haley, a prominent commission man, president, and Herbert Black, for a number of years prominently identified with the Robert Field Company, which recently went into liquidation, vice-president and manager. The company will have offices in the First National Bank Building, Cincinnati,

Buffalo.

BUFFALO, N. Y., August 18, 1908.

Pig Iron.—A few orders have been closed, covering specifications recently figured on, and a good business has been coming in from some of the radiator manufacturers. Prices are substantially the same as quoted last week, being approximately as follows, f.o.b. Buffalo:

No. 1 X Fou	mdry.		 	 . \$16.00	to \$16.50
No. 2 X Fou	indry.		 	 . 15.25	to 15.75
No. 2 Plain.			 	 . 15.00	to 15.50
No. 3 Foundr	Y		 	 . 14.75	to 15.25
Malleable Bes	sseme	r	 	 . 16.00	to 17.60
Gray Forge			 	 . 14.75	to 15.00
Charcoal			 	 . 20.00	to 20.50

Finished Iron and Steel.—Business shows a slight gain in volume, although marked with no orders of notable size. The vacation season tends to hold back some pending orders, and one or two Structural orders from local sources which were expected to materialize before this are still in abeyance.

Old Material.—The local market has been dull, with few sales consummated. Prices, however, have been firm, with slight advances in some items. We quote as follows per gross ton, f.o.b. Buffalo:

Heavy Melting Steel Scrap	13.50 to	\$14.00
No. 1 Railroad Wrought	15.00 to	15.50
No. 1 Railroad and Machinery Cast		
Scrap	14.75 to	15,25
Old Steel Axles	16.50 to	17.00
Old Iron Axles	18.50 to	19.00
Old Car Wheels	14.00 to	14.50
Railroad Malleable	13.00 to	13.50
Boiler Plate	11.50 to	12.00
Stove Plate	12.25 to	12.75
Locomotive Grate Bars	11.50 to	12.00
Pipe	11.50 to	12.00
Wrought Iron and Soft Steel Turnings	7.50 to	
Clean Cast Iron Borings	6.50 to	7.00
No. 1 Busheling Scrap	12.00 to	12.50

New York.

New York, August 19, 1908.

Pig Iron.—Moderate sized lots of Foundry Iron have been placed in this market and at Hudson River points, both southern and eastern Pennsylvania furnaces participating. One of the large Pipe manufacturers is figuring on about 10,000 tons, but no business has yet resulted. We quote, at tidewater: Northern No. 1, \$17 to \$17.50; No. 2 Foundry, \$16.50 to \$16.75, and No. 2 Plain, \$15.50 to \$15.75. Alabama Irons are quoted, nominally, \$17.25 to \$17.50 for No. 1 Foundry, and \$16.50 to \$17 for No. 2 Foundry.

Bars.—A moderate business is reported in Bar Iron, with prices ranging from 1.41c. to 1.46c., tidewater. Steel Bars continue to be held at 1.56c., tidewater.

Plates.—Some betterment is noted in the local demand, but it is hardly sufficient to cause much activity. It is observed more particularly in the slight swelling of the size of orders. It is understood that some little irregularity in prices which had begun to crop out last month has now been corrected, and all the manufacturers are firmly maintaining the following quotations on standard sized Plates, at tidewater: Sheared Plates, 1.76c. to 1.86c.; Flange Plates, 1.86c. to 1.96c.; Marine Plates, 2.16c. to 2.26c.; Firebox Plates, 2.65c. to 3.50c., according to specifications.

Cast Iron Pipe.—The most important proposition now before the trade comes from the city of Springfield, Mass., which will open bids September 9 for about 12 miles of 42-in. Pipe. Bids will be received on both Cast Iron Pipe and Steel Pipe, but the award will be made for only one

form of Pipe. If Cast Iron Pipe is selected, the quantity required will be about 18,500 tons. If Steel Pipe is selected, about 8000 to 9000 tons of Plates will be required. New York City to-day opens bids for furnishing and laying 1000 tons, and on August 26 will open bids for furnishing 1800 tons of Cast Pipe. The Warren Foundry & Machine Company secured the contract for Pipe awarded by Meriden, Conn., last week. R. D. Wood & Co. were successful in bidding for 350 tons desired by the city of Yonkers, N. Y. It is understood that the Yonkers contract was awarded at a shade under \$22 per net ton, which is said to be the lowest price named this year in this vicinity. On August 18 Brandon, Vt., will open bids on 1500 tons, and on August 22 Plainville, Mass., will let a contract for 470 tons. While considerable improvement has occurred in the past month in the volume of business placed, the general demand at present is inclined to quietness. Quotations on carload lots of 6-in. Pipe are continued, at \$23.50 to \$24.50, tidewater.

Structural Material.—Locally the letting of the Steel work for the new building at Fourth avenue and Seventeenth street, on the site of the Everett House, is the principal contract of the week. About 2700 tons will be needed. Railroad bridge work pending is of larger proportions, amounting now to 20,000 to 25,000 tons. A contract is about to be let by the Carolina, Clinchfield & Ohio for 6000 tons, and the Grand Trunk is in the market for 1000 tons. The New York Central's four burned piers at East Boston, Mass., will be replaced, and it is reported that one for the Cunard Steamship Company will be the first to be built. The fabricating companies have not been asked to bid as yet. The Eric Railroad is figuring on some small bridges, and the Lackawanna has begun preliminary work on a bridge over the Susquehanna River on the Cayuga Division, to replace one built in 1852. The Educational Building at Albany, which calls for a large amount of Steel, is still a waiting contract. Some low prices are understood to have been named on this work, and several important fabricators are out of the reckoning. The Norfolk & Southern is planning a considerable amount of trestle and bridge work for Albemarle Sound. It will be chiefly of wood, but a draw span and two Plate Girder spans will require about 1800 tons of Steel. In the West and Central West steel work of a miscellaneous character has been fairly plentiful, and local considerations have given the preference in a number of cases to firms in those sections. Shipments of plain material from mill are being made in good volume, and the outlook is considered encouraging. We quote mill shipments, tidewater deliveries, as follows: Beams, Channels, Angles and Zees, 1.76c.; Tees, 1.81c. On Beams, 18 to 24 in., and Angles, over 6 in., the extra is 0.10c. From store Structural Material, cut to length, is sold at about 2½c.

Old Material.—This market is in a peculiar condition. Purchases by consumers from dealers are confined to a few lines, comprising foundry stock and such rolling mill specialties as Iron and Steel Shafting and Car Axles. In other classes of Scrap, dealers and brokers are figuring much more largely than consumers. For some time Steel companies and rolling mill operators have been covering their requirements by direct purchases from the railroads, but the dealers and brokers have latterly been overbidding such consumers and are understood to be storing the material thus purchased if they find that it cannot be immediately disposed of to the works. While some demand is noted for Steel Scrap from several companies, they are by no means disposed to pay the prices asked, and will probably increase the proportion of Pig Iron which they melt. Rerolling Rails have recently been in much better demand. Old Car Wheels are stronger, as a result of the slight improvement in the demand for railroad equipment. We quote as follows, per gross ton, New York and vicinity:

Old Girder and T Rails for melting \$11.25 to \$	11.75
Heavy Melting Steel Scrap 11.25 to	
	14.00
Relaying Rails	22.50
Old Iron Rails 15.50 to	16.00
Standard Hammered Iron Car Axles 17.00 to	17.50
	16.00
	14.50
Iron Track Scrap 10.50 to	11.00
No. 1 Yard Wrought, long 13.00 to	13.50
No. 1 Yard Wrought, short 11.50 to	12.00
Light Iron 6.00 to	6.50
Cast Borings 6.00 to	6.50
Wrought Turnings 7.00 to	7.50
Wrought Pipe 10.50 to	11.00
Old Car Wheels 14.50 to	15.00
No. 1 Heavy Cast, broken up 13.00 to	14.00
Stove Plate 11.00 to	12.00
Locomotive Grate Bars 11.00 to	11.50
Malleable Cast 12.50 to	13.00

Ferroalloys.—Business is less active, but there is considerable interest among sellers of Ferromanganese in an inquiry in the market for a large lot. This lot has not yet been purchased, and it is felt that low figures may be made on it. The general market is unchanged at \$44 to \$44.50, at senboard, for 80 per cent. Ferromanganese. In the Pittsburgh District, however, there have been a number of resales of carload lots on a basis of \$43 to \$43.50, seaboard. The price of 50 per cent. Ferrosilicon is unchanged at \$70, at maker's works, but shipments are being accepted freely.

Metal Market.

New York, August 19, 1908.

Pig Tin.—A further contraction of business has been observed during the week, and prices steadily declined until Monday and now they are fully 1c, lower than last week. Stocks continue to accumulate, and there is no longer any complaint heard of lack of Spot Tin in New York. Price changes for the week have been as follows:

																															Cents.
August	12.		۰	0			0			0						0								۰	a			0			.30.45
August	13.					0		 	 		0																				.30.25
August	14.						,								*						,										.30.00
August	17.					0		 	 0		0	0					0									0	0				. 29.30
August	18.	*	×		×	*			 κ.			× 3	×	×	×		×	×	*	×	×	k	*		×	×		×	×	*	.29.40
August	19.							 																							.29.50

The break on Monday was occasioned by the news cabled from the Straits Settlements that the shipments for the first half of August would be 3700 tons, and the probable shipments for the month 5800 tons. The visible supply continuing to mount up in this way of course has its effect on prices, and at this time when the Tin Plate mills in this country are shut down to such an extent it may be that even lower prices will be reached. The arrivals for the first 18 days this month aggregate 1257 tons, and there are afloat for American ports 2635 tons. The London market closes lower to-day at £133 for spot and £133 15s. for futures.

Copper.-The advance to around a 14c. level for Lake was evidently too much for the market to stand at this juncture and prices quickly slipped back to 13.62½c, to 13.75c, cash for Lake and 13.50c, to 13.62½c, cash for Electrolytic. The firmer market in London had some influence on prices this afternoon, but business was at a standstill. Buying has fallen off in still greater proportion than the prices, but has fallen off in still greater proportion than the prices, but there seems to be a speculative interest which is keeping up considerable activity in London. The attempt to awaken renewed interest in speculation by American merchants may have the effect of again advancing the price. While the conditions in the Copper market have vastly improved, there is nothing in the situation now to warrant a sudden return to high prices. Consumption in this country has undoubtedly increased and will probably be in the neighborhood of 16,000 tons in August, yet there will be available for consumption here nearly 20,000 tons, unless shipments to Europe should be unusually heavy. It may take several months under ordinary conditions for trade to recover or consumption in this country to increase so as to take care of the tion in this country to increase so as to take care of the larger production now coming from the mines. It is a singular thing that Copper producers, speaking of the situation as a whole, contend that there has been little or no intoon as a whole, contend that there has been little or no increase in production, yet, when referring to their individual properties, they speak in glowing terms of the increased amount of metal coming out of the mines. The London market closes to-day at £60 17s. 6d. for spot and £61 12s. 6d. for futures. L. Vogelstein & Co. give the deliveries into consumption of foreign Copper in Germany for the months of January to June, 1908, as 79,090 tons, as against delivering the specific deliveries in the consumption of the cons eries during the same period in 1907 of 55,507 tons.

Pig Lead.—The market is steady, but not as firm now 4.60c., New York, as it was two weeks ago at 4.50c. Considerable selling of small lots at, or close to, the price of car-loads is reported. Producers are more anxious to secure or-ders than for several weeks. The market in St. Louis is also steady at 4.45c.

Spelter.—In common with other metals a marked curtailment of business is noted. In Spelter this has been accompanied by a further easing of prices, and Prime Western brands can be had at 4.50c. to 4.55c., St. Louis. In New York the market is quoted at 4.65c. to 4.70c.

Antimony.—The price of Antimony is again unchanged and business is dull. Cookson's is quoted at 8c. to 8.25c., Hallett's at 8.25c. to 8.50c. and outside brands at 7.75c. to

Tin Plate.-Operations in the Tin Plate line continue on a reduced scale, but this is not at all unexpected. Prices are firm, and for 100-lb. IC Coke Plates \$3.89 is quoted, New York, and \$3.70, Pittsburgh.

Old Metals.—Business has been very dull since the Copper market turned, and those who were anxious to buy at 1/4c. under the market a week ago will not touch like concessions this week, when the market is from ½c. to ½c. lower. Dealers' selling prices are easy, as follows:

	Cents.
Copper, Heavy and Crucible	12.75 to 13.00
Copper, Heavy and Wire	12.50 to 12.75
Copper, Light and Bottoms	
Brass, Heavy	
Brass, Light	
Heavy Machine Composition	12.00 to 12.25
Clean Brass Turnings	8.25 to 8.50
Composition Turnings	
Lead, Heavy	
Lead, Tea	4.00
Zine Scrap	3.25 to 3.50

The Allentown Foundry & Machine Company, Allentown, Pa., was placed in the hands of a receiver August The failure is stated to be the direct result of a strike in 1907 in a Philadelphia manufacturing establishment to which the company furnished castings. Allentown workmen went out in sympathy, although having no personal grievances, and a boycott resulted which greatly injured the company's business. The petition for the receivership states an indebtedness to banks of \$147,500, upon various notes of \$145,000, and floating debt of \$8847.71. John F. Wanner was named as receiver.

Iron and Industrial Stocks.

NEW YORK, August 19, 1908.

The stock market was unable to keep up its rapid pace and prices broke considerably on Thursday of last week, after which there were several days of weakness. Some improvement has taken place in the opening days of the current week. The range of prices on active stocks from current week. The range of prices on active stocks from Thursday of last week, when the highest prices were realized, to Tuesday of this week, was as follows: United States Steel common 44 to 47%, preferred 108½ to 110½; Car & Foundry common 39½ to 46½, preferred 102 to 103½; Locomotive common 54½ to 59½, preferred 107; Bethlehem Steel common 21½ to 23, preferred 52½ to 53¼; Steel Foundries common 8½, new stock 37½; Cambria Steel 34¾ to 36½; Colorado Fuel 32 to 36¼; Crucible Steel common 7¼ to 75½, preferred 47 to 51; Pressed Steel common 33½ to 36, preferred 95½ to 96; Railway Spring common 42¾ to 46, preferred 100; Republic common 21¾ to 24, preferred 76 to 80¾; Sloss-Sheffield common 62½ to 64½; Cast Iron Pipe common 27½ to 28, preferred 76¼ to 76½; Can common 6¼ to 6½, preferred 60¾ to 61.

Last transactions up to 1.30 p.m. to-day are reported at

mon 6½ to 6½, preferred 60½ to 61.

Last transactions up to 1.30 p.m. to-day are reported at the following prices: United States Steel common 45½, preferred 108½; Car & Foundry common, 40½, preferred 102½; Locomotive common 55¾, preferred 107; Colorado Fuel 33¾; Pressed Steel common 35¼, preferred 96; Railway Spring common 42½; Republic common 23, preferred 78¼; Sloss-Sheffield common 6½; Cast Iron Pipe common 27¼, preferred 78; Can common 6½, preferred 60½.

Dividends.—The Pittsburgh Valve, Foundry & Construction Company has declared a quarterly dividend of 1¼ per cent., payable August 31.

The National Enameling & Stamping Company has declared a dividend of 7 per cent. on the preferred stock, payable in quarterly installments of 1¾ per cent, each.

The Houston Car Wheel & Machine Company, Houston, Texas, is successor to the Waterman Car Wheel & Foundry Company, and is also operating the Houston Engineering & Machine Company. It has well equipped foundry and machine shops, which are stated to be as thoroughly up to date as any in the Southwest, and consequently it is enabled to undertake any character of large or small work. The company manufactures chilled car wheels, engine truck wheels, railroad castings, heavy forgings, dredge machinery, oil and sawmill machinery, compress work, hydraulic cylinders and head trees, as well as doing a general line of repair work. Robert E. Masters is manager.

The Duncannon Iron Company, Duncannon, Pa., with principal offices in Philadelphia, has been placed in the hands of receivers-William A. Moore, J. B. Lessig and W. L. Conver, appointed by the local court. For several weeks efforts have been made by the company and its creditors to arrive at some plan to continue the operation of the plant, but they were unsuccessful. It is understood that the company made no objection to the receivership.

La Porte, Ind., will have a "home coming" August 23 and 29. A souvenir of the occasion has been prepared, entitled "Pictorial La Porte," which is now being distributed. This publication is profusely illustrated, showing leading manufacturing establishments and public buildings as well as some of its imposing residences and points of interest. It also contains an enumeration of the city's importance in manufactures and commerce.

The Electro Metals, Ltd., of Welland, Ont., produced several hundred tons of ferrosilicon by electricity in the first six months of 1908. Almost all of the ferrosilicon made contained over 50 per cent. of silicon.

The Machinery Trade.

NEW YORK, August 19, 1908.

Considering the fact that the vacation season is at its hight, machinery dealers should not be discouraged over the present business situation, as even in times when there is a rush of trade a noticeable lull occurs during the hot summer months. A number of local houses report that their business has not fallen off during the past two weeks as against the sales of July, and many houses have been doing a better business this month than they did in June. There are no new lists of any size before the trade, and the extensive list sent out by the International Steam Pump Company some time ago has not been bought against as yet, according to all available reports. The railroads have no lists out, but are doing some scattering buying. It is hard to judge the extent of the business they are placing because of the fact that many in the trade have no knowledge of their inquiries, where if a list was sent out the trade in general would know about it and could base some estimate on the amount of business being done.

The Government continues to buy equipment for the Panama Canal, and a good list of cement machinery is expected from that source. It is said in the trade that bids will be shortly asked for furnishing about 200 steel dump cars for use in the Canal Zone.

The market is being largely supported by export business, one or two houses having reported some fair sales in South America and Australia. A little business is being done with the sugar interests of Cuba and Porto Rico, and while the Japanese are not placing any noticeably large orders, their purchasing houses here are doing some steady buying and their trade has gone far toward helping the business situation.

There seems to be a general tendency on the part of the trade to accept the situation philosophically, and machinery houses appear to be satisfied with the present outlook as regards their sales. At least one big machine tool selling firm reports a noticeable increase in sales over the last three months, and while the proportion of inquiries that result in sales is not as large as might be expected, the fact that there is a good steady inflow of inquiries to most houses is taken an indication that many manufacturers as a rule are inclined to buy, and will do so as soon as they can see their way clear to increasing their expenditures. The Fore River Shipbuilding Company has been doing a fair amount of buy-ing in the trade, and the New York Central Railroad con-tinues to make scattering purchases, principally of special equipment.

The Menominee & Marinette Traction Company, Menominee, Mich., is having constructed a hydro-electrical power plant at Grand Rapids, on the Menominee River, about 18 miles north of that city. The plans and specifications were plant at Grand Rapids, on the Menominee River, about 18 miles north of that city. The plans and specifications were prepared under the direction of Jacobson & De Guere of Grand Rapids, Mich., and that company is superintending the construction work. The plant will generate about 7000 hp., and the plans call for a solid concrete dam about 500 ft. long and a dike 1000 ft. long. The power house will be of reinforced concrete and the construction work will include the building of a flume and a 4000-ft. canal. It is understood that a large part of the machinery equipment has not stood that a large part of the machinery equipment has not

been purchased as yet. H. W. Dexter, 323 Empire Building, Atlanta, Ga., has inquiries out for an extensive list of machine shop equipment, including a general line of machine tools. Mr. Dexter is acting for other parties and he desires communications on the subject to be addressed to him at 96 Liberty street, New York. The requirements include planers, radial drills, upright drill, presses, shapers, engine lathes, pulley lathes, driving wheel lathes, bolt and nut machinery, pipe threading machines, flue welders, air compressors for lifting machines and a general line of shop equipment for installation in a large sawmill machine shop. It is desired to purchase the

and a general line of shop equipment for installation in a large sawmill machine shop. It is desired to purchase the machinery as soon as possible, and if first-class second-hand machinery can be obtained it will be given consideration.

The National Scale Company, Beaver Falls, Pa., is in communication with the Board of Trade of Chicopee, Mass., with a view to locating in that city. The National Scale Company manufactures weighing and counting machinery and its business has outgrown its present plant. For some time the company has had under consideration a change of location with a view to enlarging its output, and if it does not locate at Chicopee it is stated that some other point will be decided upon shortly. It is probable that before long the trade will hear of some machinery requirements for this enterprise. enterprise

Wilcomb Machine Company, Norristown, Pa. be in the market before long, it is expected, for machinery and equipment for an addition to its plant. The company manufactures knitting machinery and an extensive addition is now in course of construction. It is stated that the ma-

is now in course of construction. It is stated that the machinery expenditures will amount to about \$50,000.

The Public Service Commission, Albany, N. Y., has granted a charter to the Citizens' Electric Service Company, Bath, N. Y., permitting construction of electric lighting plant in Bath and surrounding villages. E. J. G. Tower of the King Iron Works, 226 Ohio street, Buffalo, who is manager of the company, states that specifications for the machinery and conjument are being completed, and that contracts will and equipment are being completed, and that contracts will be shortly awarded. The plant will consist of three direct

be shortly awarded. The plant will consist of three direct connected gas engine driven units, to be operated on producer gas, a three-panel switchboard, transformers, converters and complete modern equipment.

The Schaeffer & Budenberg Mfg, Company has disposed of its factory building at Foxboro, Mass., to other parties, and on September 1 will move its main office, works and New York salesroom to 963-965 Kent avenue, Brooklyn.

Catalogues Wanted.—J. Coulange, who for the past 12 years has been designer for the Fabrique Nationale d'Armes de Guerre of Belgium and who is a member of the Brussels Trading Chamber, has opened an office in Liege as an inventing and constructing mechanical engineer, to make a specialty of machine tools and special machinery, and he deires American and foreign catalogues on all classes of machinery manufactured.

Cincinnati Machinery Market.

CINCINNATI, Ohio, August 18, 1908.

Very complex in character is the machinery and machine tool trade in this section just now. At a plant making standard tools a good sized order causes hasty notes of request from superintendents and foremen, asking laid-off employees to report at an early day; while at others near by the pay roll continues to be cut. In strict justice to the trade in general, and with a proper regard for what it means to commerce and trade in particular, it must be stated that the first named acts are not in the majority. It is difficult to draw a fairly truthful picture of the machinery market at this time. Concerns which last week entered some nice specifications in order books and which sold some expensive machines in stock are this week complaining of a lack of inquiry while some others which were practically shut down are calling in men and starting idle wheels.

A glance at the machinery manufacturing establishments in the smaller cities and districts of relatively less importance shows a gain in practically every branch, and this is particularly true of concerns which are fitted for repair work on cars, locomotives, agricultural implements and kindred tools. Good reports come from Dayton, Columbus, Lima, Hamilton, Springfield and Middletown, Ohio, and

Reports from the Barney & Smith Car Mfg. Company, Dayton, and the Ralston Pressed Steel Car Company, Columbus, show that both are taking on additional

Columbus, show that both are taking on additional men and gradually enlarging their capacity to take care of long delayed business in their special lines.

In Hamilton, Ohio, practically all the larger machinery and tool manufacturing plants are increasing time and forces. One of the largest tool manufacturing establishments in this district is running about 70 per cent. of normal with a splendid line of inquiries on hand, and another making a specialty of heavy purching and shearing mechinery ing a specialty of heavy punching and shearing machinery is rapidly taking on its accustomed activity. The blowing

is rapidly taking on its accustomed activity. The blowing in of the large furnace of the Hamilton Iron & Steel Company on Wednesday of this week is regarded as an epoch in the industrial life of this community. The directors of the company met August 14 in the office of Field, Longstreth & Co., in Cincinnati, and considered a report of President George Pearson, who announced the arrival of ore and all in readiness for applying the torch.

An enterprise of the Shunk Plow Company at Bucyrus, Ohio, is receiving the attention of those interested in manufacturing. Tests have recently been made by officials of that concern of an automobile buggy manufactured entirely at the Bucyrus plant; and these tests, it is reported, have encouraged the directors to proceed with the enterprise. The new vehicle, of which successful tests have just been made, is a double cylinder machine, capable of developing from 12 to 15 hp. It is expected that the various departments will be 15 hp. It is expected that the various departments will be started to work soon on a stock order of 100 cars. Additional machinery is to be installed, and some enlargements

tional machinery is to be installed, and some enlargements made in the company's plant as the patronage may justify. The plant of the Indiana Steel & Wire Company at Boyceton, Ind., near Muncie, has resumed work in all departments. A number of necessary repairs were made, and some improvements added during the recent shutdown.

A building has been secured for an extension to the foundry business of the Marion Gray Iron Foundry Company at Marion, Ind. It is reported that this company has received sufficient orders to justify the enlargement in question and the practical doubling of its capacity.

The Fort Wayne Foundry & Machine Company, Fort Wayne, Ind., is accredited with the greatest amount of orders for structural iron work in its history. A recent order from the Delphos Mfg. Company, Delphos, Ohio, calls for a gas engine of 100 hp. and a 150-hp. gas producer.

The Krein Mfg. Company, Wapakoneta, Ohio, manufacturer of chains, is now running on practically full time with a good sized order book and reports conditions materially improved.

improved.

A new idea in woven wire fencing has been developed and patented by Charles Birch, Crawfordsville, Ind. The special feature of the fence is the knot, where the meshes are secured, the claim being advanced that this knot is more rigid and better in every way than those of other types. A machine for the manufacture of the new fencing has been designed, and the product will be marketed from the Birch foundry in that city.

George Pike, a mining engineer from Teller, Alaska, ocologie Fire, a mining eighteer from Frier, Atasaa, is in Cincinnati, superintending the manufacture of some special mining machinery to be installed in that place. He reports conditions improving in the mining districts, with plenty of work in all branches of industry.

Conditions in the Panama Canal Zone are reported

good by J. A. Evans of Richmond, Ky., who is here on leave of absence. He says that in the Culebra cut 67 shovels are at work, each taking out an average of 2000 cu. yd. earth a day.

The International Railroad Master Blacksmiths' ciation will be in session here beginning to-day, and continuing till Thursday night. The Supply Association officials tinuing till Thursday night. The Supply Association officials and members were the first on the ground and began arriving Monday at Grand Hotel headquarters. A. L. Guilford, Ajax Mfg. Company, Chicago, is president; D. B. Cram. Railway Materials Company, Chicago, secretary, and J. W. Williams, Brown & Co., St. Louis, treasurer of the Supply Association. J. B. Judy, Allegheny, Pa., is president of the Blacksmiths' Association, and A. L. Woodward is secretary. Denver, Colo., is in the field for the next place of meeting.

Philadelphia Machinery Market.

PHILADELPHIA, PA., August 18, 1908.

While business is dull at the moment, considerable encouragement for the future is taken from the conditions surrounding the iron and steel trades. More activity has developed in some of these lines, and the trade believes that the continued slight gain in the business of the steel making and industrial plants, the car builders and closely identified interests, is bringing nearer the time of buying equipment for these plants, which it is expected will be needed, and that promptly, should a busness revival be experienced, as expected during the coming fall months. While the railroads in this territory still show but little indication of coming into the market for machine tools, they have made some few purchases in other directions, and, it is understood, have increased the volume of repair work being done. Some roads outside the territory show more activity and are planning to make more extended purchases of rolling stock. Crop reports continue most favorable, and a large percentage of the railroads will be unable, unless their motive power and rolling stock is put into better condition, to care adequately for the usual heavy movement during the fall months. Tool builders, therefore, consider the outlook for the future as most hopeful, and a strong undertone of confidence and strength is to be pretty generally noted. The foreign demand continues very quiet, with little business pending, and the orders taken in this territory have been exceedingly few.

The second-hand machinery market, while showing no particular improvement, continues fairly active. There is a certain volume of day to day business, which in the aggregate shows a pretty good total. The demand runs largely to the medium and smaller tools, with occasional inquiries for heavy tools and equipment of a somewhat special nature.

Conditions in the foundry trade are unchanged. The tonnage coming out is not large, consumers ordering in small quantities to meet their immedaite needs. Steel cast-

ing plants are reported to have taken on a somewhat better volume of business, but are still considerably below the normal. Jobbing foundries run irregularly, and those making a specialty of machinery castings report no marked improvement in the demand.

provement in the demand.

The Wilcomb Machine Company, Norristown, Pa., is enlarging its plant, and has awarded contract to build a two-story brick addition, 40 x 88 ft.

C. C. Knight & Co., iron and steel merchants, Sixteenth and Callowhill streets, have had plans prepared by Watson & Hacket, architects, for a six-story fireproof warehouse building, to be erected at the above location. The structure is to be 100 x 180 ft., of brick and reinforced concrete.

The Department of Public Safety, city of Philadelphia.

will open bids August 19 for a pipe threading and cutting machine; a shaper, 18-in. stroke; a universal milling machine, a 16-in. lathe, a three-spindle drill press, a screw machine, five 3-in. jaw bench vises, blacksmith vises, a combination forge and muffle, emery wheel and stand, chucks of various sizes, &c. This equipment is to be installed in a repair shop to be established for the Electrical Bureau in the

City Hall.

The American Ice Company is having borings for wells made at Glenwood street and Montgomery avenue, with a view of establishing there a 150-ton ice plant. It is also understood to be preparing plans for a 100-ton ice plant, to be located at Forty-seventh street and Girard avenue, together with an ice storage plant of 7500 tons capacity.

Chicago Machinery Market.

CHICAGO, ILL., August 18, 1908.

Sealed bids will be received by W. B. Krause, city clerk, Port Washington, Wis., until 7.30 p.m., August 25, for three 100-hp, water tube boilers, one 100-hp, and one 200-hp, tandem compound condensing Corliss engines, one 75-kw. and one 150-kw. three-phase 60-cycle 2300-volt generators, one three-panel switchboard, one 75-light arc transformer and regulator, one 60-hp. induction motor, together with accessories such as exciters, feed pumps, heaters, condensers, piping, belting, boiler settings, &c. Also one brick addition to power house and one stack. Plans and specifications are on file at the city clerk's office, Port Washington, Wis.; at 31 Vroman Building, Madison, Wis.; at Builders' and Traders' Exchange, Milwaukee, Wis., and at the office of F. W. Dodge Company, Monadnock Block, Chicago, Ill.

Plans which were completed about a year ago for the erection of a modern machine shop by the Great Falls Iron Works, Great Falls, Mont., manufacturer of mining and works, Great Fails, Mont., manufacturer of mining and milling machinery, and put aside owing to the financial crisis which developed at that time, will now be carried out. The company has commenced work on a building of brick and steel construction, 65 x 80 ft. and 30 ft. high, to be located at the corner of Eighth avenue North and Fourteenth street, the estimated cost of which is \$15,000. Machinery of the latest pattern will be installed in the building, including two cranes, one electric and one hand power.

The Jackson-Church-Wilcox Company, Saginaw, Mich., manufacturer of light machinery and automobile parts, will

the transfer of the first and store to the first and store construction, 53 x 217 ft., with two additions, or wings, 40 x 50 ft. Power to run the plant will be supplied by the Jackson & Church Company, Saginaw. It is also expected to install a heating plant, using the low pressure system. New machinery will probably be purchased when the company moves into the new

buildings.

The Electric Light & Ice Plant, A. W. Lewis, manager, Hoisington, Kan., is making considerable changes in its equipment and has recently purchased two new Westinghouse

equipment and has recently purchased two new Westinghouse electric generators of 75 and 30 kw. each. Additional equipment to be purchased, for which it is now in the market, includes a 120-hp. Corliss and a 40-hp. high speed engine. The change will leave on hand a McEwen engine and switchboard for 1100 volts and 45-kw. generator.

The city of Stickney, S. D., will receive bids until August 22 for the construction of complete water works system, to cost about \$8000, which will include the digging of six wells. approximately 450 ft. deep; the laying of 2500 ft. of 4 and 6 in. mains, with hydrants, &c.; the purchase of one 15-hp. gasoline engine and deep well pumping outfit; the construction of 90-ft. steel tower, with cypress tank 18 x 20 ft.

Changes to be made this winter in the equipment of the

tion of 90-ft. steel tower, with cypress tank 18 x 20 ft.

Changes to be made this winter in the equipment of the municipal electric light plant of Harbor Springs, Mich., include the installation of an additional generator and engine with a rating of from 350 to 450 kw. H. L. Metz is manager.

The Hico Electric Company, Hico, Texas, will during the next 12 months consider the question of changing its system from 133 cycles to 60-cycle three-phase, which will include the installation of a 75-kw. alternating current generator. H. Gleason is manager.

The city of Park River, N. D., is in the market for a 10 x 8 x 12 in. duplex pump for installation in the municipal electric light and water works. The city is also considering installing a new boiler of 100 or 125 hp. and a heater and purifier, but may not do anything in regard to the matter this year. G. Anderson is superintendent of the Park River Electric Light & Water Works.

this year. G. Anderson is superintendent of the Park River Electric Light & Water Works.

The city of Graceville, Minn., has under consideration the question of increasing the output of the municipal electric light plant, and if it materializes the equipment will be increased by the addition of a larger boiler, engine and generator. H. A. Raitz is superintendent.

The city of Okolona, Miss., is contemplating the purchase of two new 100-hp. boilers for installation in the water and light works. Dr. T. M. Braty is purchasing agent, Okolona, Miss.

Extensions to be made this fall to the equipment of

the municipal electric light plant, Thorntown, Ind., include 50-kw. dynamo and gas or gas producer engine. Young is manager.

The city of Marion, Ind., is now working on plans and specifications for the enlargement and rebuilding of the municipal electric light plant, in which new equipment will be installed. Specifications will be completed in about a week, when bids will be asked. Otis Weesner, 318 East Grant street, Marion, Ind., is superintendent of the electric

light department.

The Neosho Electric Light Company, Neosho, Mo., is in the market for one horizontal tubular boiler for 160 lb. working pressure, dimensions to be 72 in. by 18 ft. long, complete with all fittings, and stack 76 ft. long of No. 10 light holds. The boiler should have flush heads, full front settings, a smoke rings. S. W. Carver is manager.

Additions to the machinery equipment of the plant of the Pike Light & Power Company, Pikeville, Ky., are being planned by that company, but it is not known as yet just what equipment will be needed or when estimates will be received. It is stated, however, that the new equipment to be installed will probably include a 150-hp. boiler, a 75-kw. 220-volt direct connected generator and an engine of 100 hp. The company also expects to start a day circuit next spring. L. L. Stone is manager.

To provide for day service the Medora Electric Light Plant, Frank Watson, proprietor, Medora, Ill., expects to install a direct connected unit to use in connection with either natural gas or gasoline. Before going ahead with the purchase of this unit the company is awaiting developments being made to supply it with natural gas. In the meantime

the company desires catalogues. &c., relating to direct connected units of 10 to 15 kw., 125-volt, natural gas or gasoline.

The Braymer Light & Fuel Company, Braymer, Mo., recently purchased a three-story brick building, which will be

used as a power station. Additions to the equipment of the company's plant are being made, including a 100-hp. engine and two 25-kw. 125-volt dynamos. C. P. Dorsey is manager.

The citizens of Hillyard, Wash., have voted bonds in the sum of \$55,000 for the construction of water works. The plans call for the installation of two centrifugal pumps canable of delivering 500 called the better respectively. plans call for the installation of two centrifugal pumps capable of delivering 500 gal, or better per minute in a well 210 ft. deep to pump water to a tank of 100,000 gal. capacity on a tower 70 ft. high, both to be constructed of steel. The water mains will be iron or steel pipe in the following sizes: 4, 6, 8, 10 and 12 in. About 60 fire hydrants will be required. M. H. Gordon is Mayor.

Bids will be received on August 25, 1908, at 1 o'clock p.m., by the County Commissioners, Warsaw, Ind., for the erection of a steel water tank and tower, complete with foundation and frost proof covering, and two new boilers 54 in. by 14 ft. John C. Beagle is County Auditor and secretary to the commissioners.

retary to the commissioners.

The Morganfield Light & Power Company, Morganfield, Ky., is considering the installation of a 100-kw. 500-volt d. c. generator to furnish power to adjacent mills. Nothing definite, however, has yet been done.

The installation of a 300-kw. revolving field two-phase belt driven generator and three turbine water wheels to operate it is controvaleted by the Organ Flectic Light & Dougen

ate it is contemplated by the Oregon Electric Light & Power Company, Oregon, Ill., of which company F. G. Jones is president and manager.

Clanton Light & Power Company, Clanton, will add to the present equipment of its plant one 40-hp. automatic engine and one 100 hp. internally fired return tubular boiler. J. P. Van Derveer is general manager of the

company.

Max J. L. Tower, 444 Vinewood avenue, Detroit, Mich., is preparing plans for the erection of a bridge and structural is preparing plans for the erection of a bridge and structural steel plant, to be built on a site which has been purchased beside the Michigan Central Railway freight yards, in Detroit. The site for the plant is about 7½ acres, and has a frontage on the railroad of about 200 ft. Mr. Tower is preparing to incorporate a company with about \$300,000 capital. a large part of which he expects to subscribe for himself. The company will make a specialty of structural steel and bridge work. No details as to the size of the proposed plant are available as yet, other than it will occupy a large part of the purchased property.

New England Machinery Market.

WORCESTER, MASS., August 18, 1908.

With the vacation season at its hight, nothing better could be expected in the machine tool trade than that business would hold its own. This it has done. The week has been a repetition of the summer preceding it, with a few orders and inquiries numerous enough considering that New England is taking a vacation on a large scale. Customers are seizing the opportunity to enjoy the warm weather at the shore or mountains or abroad, to an extent, in the way of duration, that has not been feasible for most busines men in several years past. As it is not necessary for them to stick so closely to their desks, they are leaving their offices

to their assistants, either for weeks at a time or for long week ends. Assisting in the vacation condition quite a large number of manufacturing plants are shut down for longer vacations than usual. As a result, there is greatly reduced opportunity to sell machine tools. Even were the manufac-turing industry twice as active few orders would be expected at the hight of so unusual a migration of buyers.

It is noticed that as some of the works resume opera-tions after vacation their productive capacity is increased, partly because of the accumulation of business during the shutdown and partly because there seems to be a real improvement in the volume of orders. This is much more noticeable in some lines than others. It applies only in a slight degree to the machine tool industry. In lines closer to the consumer of manufactured products the change is more marked and the outlook generally brighter.

Steam engine builders report that the week has brought an important improvement in business, and that they expect an important improvement in business, and that they expect to find the change a permanent one. For example, one of the larger New England builders has booked orders in the past few days totalling several thousand horse power, an amount of business in large units practically equalling the entire bookings of the company for the first half of the year. The total volume of orders for steam engines has been almost microscopic, compared with the normal. Of Corliss engines only 50, averaging \$8000, a total of \$400,000, were sold be-tween Jan. 1 and July 1. This insignificant business, com-prising the orders of all American manufacturers of the Corliss type, is only a small per cent. of the normal product. Yet, during this same period the inquiries reached a record total of prospective orders. Users of power turned their attention to their power plants when the slackening of business released them from concentration on manufacturing proper, and they have been planning improvements. They are only beginning to place their orders, however, and the engine people fear they are to be flooded later by a simultaneous action of customers in entering the market to buy. It is undoubtedly a fact that those who will place their orders for power equipment immediately will be spared the annoyance of long delayed deliveries.

The supply of automobile engines is much below the de-The supply of automobile engines is much below the demand. Several thousand units would be absorbed immediately, and the builders of this type of motor are rushing production in the knowledge that the automobile manufacturers will buy as fast as engines can be delivered. Last fall it was not believed that the automobile business could keep up, and the engine builders decided to curtail production, a fact which they have since regretted. A large percentage of automobile engines are now built for the manufacturers by

outside parties.

Certain lines carried by the supply dealers have escaped general depression. Typical cases are those of gasoline I gas engines of small power, and that of scales. The deand gas engines of small power, and that of scales. The demand for these products has been exceptionally brisk, a fact which the dealers do not try to explain.

Stocks in the supply trade are very low. A prominent dealer remarked yesterday that "if a customer were to offer an order for 100 doz. files on condition that it be filled the same day no house in Boston could accept it." This may be an exaggerated statement, yet it illustrates a known condi-tion in this trade. As business improves manufacturers should feel a quick response from the supply dealers, for present stocks would be quickly exhausted. The same thing is true of other classes of customers, including those of the dealers as well as those of the manufacturers. chasing departments of the railroads have approved requisitions literally in stacks, ready to become orders as soon as the powers at the financial heads loosen on the pursestrings and make available the necessary funds. Every department has large numbers of requisitions, totalling impressive amounts, awaiting the action of the purchasing agent, and many of the needs embodied in the requisitions are classed as imperative, and constitutes but a skeleton of the require-ments which will come with the resumption of active traffic. In manufacturing plants the same general condition exists, purchases being still confined to wants which no makeshift can satisfy.

Hill, Clarke & Co., Inc., Boston, have made extensive improvements to their store at Oliver and Purchase streets. A new finished hard wood floor has been laid, and upon it is shown the stock of machine tools, from all of which the skids have been removed, so that they appear as in a shop, an attractive practice followed by dealers abroad, but rarely in America. The new demonstrating shop of the store has been equipped with line shafting and powerful electric drive. Belted up for practical operation is a representative group of the company's lines, including Whitcomb and Gray planers. Flather engine lathe. Snyder drills, Chicago hand millers, Lapointe broaching machine, Milwaukee miller, Henry & Wright drill, Western radial; a Flather gear shaper, representative of the American type, installed beside a German gear hobbing machine, the Pfidtler; a Consolidated press; tilted turret lathe, with automatic continuous bar feed, built by the Wood Turret Machine Company, Terra Haute, Ind., and a Rogers boring mill.

The United States Gas Furnace Company, Providence

R. I., has established a business in a shop at 143 Eddy street, corner of Pine street. It is a co-partnership, with W. E. Chase as general manager, and manufactures a line of gas blast furnaces, a specialty in which Mr. Chase has had a long experience.

The awards of the machine tools, comprising the lists of the Watertown arsenal, mentioned last week, have been de-layed for some reason, and are awaited with eagerness by the Boston dealers, who are the only bidders.

The American Battery Holder Company, Worcester, Mass., has established a factory at 65 Beacon street, where the O. K. battery holder, a new device, will be manufactured. C. B. Russell is the manager of the business.

The New England Butt Company, Providence, R. I., builder of twisting, cable and rubber covering machinery, has increased its capacity very considerably because of new orders for machinery. The company's foundry is also increasing production because of outside orders.

The builders of steam engines complain that prices are y low, owing to cutting that has been going on in the whatever business may come up. The trade effort to obtain whatever business may come up. has an association, but it is young and consequently not in a position to secure so logical a co-operation among its members as has existed in the National Machine Tool Builders' Association, with the result of a maintenance of lists under the most adverse conditions of the trade. It is believed, the most adverse conditions of the trade. It is believed, however, that with better acquaintance and mutual understanding among its members the engine builders' association will finally get into a position so that the various concerns interested, comprising a large majority of the trade in the United States, will be markedly benefited, both in good times and in dull. It is well realized among the engine people that had they been organized to the same degree of perfection as the machine tool manufacturers, prices would now be much higher, the volume of orders booked during the past year would have been practically as large in numbers and larger in amount, and there would be very great advantage in approaching the rising market. be very great advantage in approaching the rising market. In New England the engine business shows some signs of improvement, builders state, but competition is so keen, taking the form of lowering prices, that profits are far from satisfactory. There is business for the future, however, which should be profitable, for a large share of it will not be booked probably until after the upward turn of business has reached the proportions of a strong market.

has reached the proportions of a strong market.

A new industry to be known as the Bristol Engineering Company, Bristol, Conn., is being organized to manufacture parts of taxicabs, including engines, transmissions, clutches and other automobile parts, and work on the erection of a factory will begin immediately. The organizers of the business are prominent men, comprising Albert F. Rockwell, president, and Dewitt Page, treasurer of the New Departure Mfg. Company, Bristol, and F. E. Moskovics, Kingston, N. Y., who is prominently known as an inventor of automobile parts. Mr. Rockwell will be president of the new corporation, Mr. Page vice-president, and Mr. Moskovics secretary and treasurer. It is believed that the future of the taxicab will be an important one, and that the demand for the new company's product will be correspondingly great. Mr. Rockwell has recently returned from Europe where he has given the subject of taxicabs careful investigation.

F. B. Farnsworth, New Haven, Conn., of the McLagon Foundry Company, has been made trustee in bankruptcy of the Branford Mfg. Company, manufacturer of locks, and has been instructed to continue the business until ordered otherwise by the referee.

The business of the Westmacott Gas Furnace Company, The business of the Westmacott Gas Furnace Company, Providence, R. I., has been reorganized under new management, with W. C. Buell as president and treasurer, and W. C. Buell, Jr., secretary and general manager. The company is located at 159-161 Orange street, and manufactures gas blast furnaces for annealing, hardening, tempering, etc.

The Hampton Company, Easthampton, Conn., manufacturer of textiles, is to build an addition to its works, 02 x 142, ft. and two stories.

93 x 142 ft. and two stories.

Government Purchases.

WASHINGTON, D. C., August 18, 1908.

The Isthmian Canal Commission will soon ask for bids for three 3-hp. and two 8-hp. marine motors, and for the Gatun handling plant 12 electric locomotives, flat cars and other accessories for a complete electrical industrial railroad.

The following bids were opened August 11 for machinery

for the navy yards:

for the navy yards:

Class 4.—One Dow vertical triple plunger pump—Bidder 26.
George E. Dow Pumping Engine Company, San Francisco, Cal.,
8800; 29, Dean Steam Pump Company, New York, \$470 and
8507; 30, M. T. Davidson, Brooklyn, New York, \$680; 80, Manning, Maxwell & Moore, New York, \$442.45; 91, National Electrical Supply Company, Washington, D. C., \$590.

Class 51.—One gang drill—Bidder 40, Fairbanks Company,
New York, \$573; 60, Handlan-Buck Mfg. Company, St. Louis,
Mo., \$650; 80, Manning, Maxwell & Moore, New York, \$625.

Class 62.—One motor driven splitting shear—Bidder 80,
Manning, Maxwell & Moore, New York, \$1210; 118, Scully Steel

& Iron Co., Chicago, Ill., \$1397; 121, Toledo Machine & Tool Company, Toledo, Ohio, \$1274.

Class 63.—One motor driven countersinking machine—Bidder 45, \$1730.

Class 64.—One gravity moider and six flasks—Bidder 14, A. Buck's Sons Company, Elizabethtown, Pa., \$2500.

Class 65.—One electric traveling holst—Bidder 9, Alfred Box & Co., Philadelphia, Pa., \$650; 21, Case Mfg. Company, Columbus, Ohio, \$700; 25, Cleveland Crane & Car Company, Wickliffe, Ohio, \$775; 40, Fairbanks Company, New York, \$670; 92, Niles-Bement-Pond Company, New York, \$740; 102, Pawling & Harnischfeger, Milwaukee, Wis., \$995.50; 113, Sprague Electric Company, New York, \$950; 116, Sheppard Electric Crane & Mig. Company, New York, \$950; 116, Sheppard Electric Crane & Mig. Company, Montour Falls, N. Y., \$585; 134, Yale & Towne Mig. Company, New York, \$950; 116, Sheppard Electric Crane & Mig. Company, Cinclinati, Ohio, \$525; 44, Fox Machine Company, Grand Rapids, Mich, \$305.90.

Class 66.—One core box machine—Bidder 43, J. A. Fay & Egan Company, Cinclinati, Ohio, \$525; 44, Fox Machine Company, New York, \$916; 49, Garvin Machine Company, New York, \$916; 92, Niles-Bement-Pond Company, New York, \$823; 106, Spring-field Machine Tool Company, New York, \$865.

Class 68.—One full universal radial drilling machine—Bidder 40, Fairbanks Company, New York, \$1358; 80, Manning, Maxwell & Moore, New York, \$1401.

Class 69.—One full universal radial drilling machine—Bidder 40, Fairbanks Company, New York, \$1308 and \$1400; 92, Niles-Bement-Pond Company, New York, \$1308; 129, Vandyck-Churchill Company, New York, \$1308; 129, Vandyck-Churchill Company, New York, \$1308; 129, Vandyck-Churchill Company, New York, \$1308; 92, Niles-Bement-Pond Company, New York, \$1308; 92, Niles-Bement-Pond Company, New York, \$1308; 128, Vandyck-Churchill Company, New York, \$1308; 92, Niles-Bement-Pond Company, New York, \$1308; 92, Niles-Bement-Pond Company

pany, New York, \$112.25: 80, Manning, Maxwell & Moore, New York, \$200; 93, Northern Electric Mfg. Company, Madison, Wis., \$350.

Class 73.—One double duty shaper—Bidder 39, Frevert Machinery Company, New York, \$780: 40, Fairbanks Company, New York, \$1350; 80, Manning, Maxwell & Moore, New York, \$1060; 92, Niles-Bement-Pond Company, New York, \$617.

Class 74.—Three screw cutting engine lathes—Bidder 40, Fairbanks Company, New York, \$1064; 49, Garvin Machine Company, New York, \$1028 and \$1043; 61. Hendey Machine Company, New York, \$1028 and \$1043; 61. Hendey Machine Company, Torrington, Conn., \$1260: 69, 1. H. Johnson, Jr., & Co., Philadelphia, Pa., \$1222: 80, Manning, Maxwell & Moore, New York, \$129; 92, Niles-Bement-Pond Company, New York, \$1348; 106, Springfield Machine Tool Company, New York, \$1348; 106, Springfield Machine Tool Company, New York, \$1348; 106, Springfield Machine Tool Company, New York, \$1348; 108, Yandyck-Churchill Company, New York, \$970 and \$1095.

Class 75.—One extension gap lathe—Bidder 39, Frevert Machinery Company, New York, \$1274; 40, Fairbanks Company, New York, \$1620; 60, Handlan-Buck Mfg. Company, St. Louis, Mo., \$1625; 80, Manning, Maxwell & Moore, New York, \$1444; 92, Niles-Bement-Pond Company, New York, \$168.75.

Class 76.—Two quick change engine lathes—Bidder 39, Frevert Machinery Company, New York, \$893; 40, Fairbanks Company, New York, \$1044; 49, Garvin Machine Company, Connany, New York, \$1044; 49, Garvin Machine Company, New York, \$1013; 61, Hendey Machine Company, Torrington, Conn., \$1373; 69, I. H. Johnson, Jr., & Co., Philadelphia, Pa., \$1252; 80, Manning, Maxwell & Moore, New York, \$1365; 92, Niles-Bement-Pond Company, New York, \$1076; 128, Vandyck-Churchill Company, New York, \$1060.

Class 77.—One constant speed electric motor—Bidder 31, Diehl Mfg. Company, Philadelphia, Pa., \$255; 93, Northern Electric Company, New York, \$347; 133, Westinghouse Electric & Mfg. Company, Phyde Park, Mass., \$271; 132, Western Electric Company, New York, \$549 and \$561; 88, New Jersey Found

The following bids were opened August 10, Circular No. 456, for supplies for the Isthmian Canal Commission:

456, for supplies for the Isthmian Canal Commission:

Class 1.—One locomotive crane—Bidder 4, American Hoist & Derrick Company, St. Paul, Minn., \$6958: 12, Brown Hoisting Machinery Company, Cleveland, Ohio, \$8900; 13, Browning Engineering Company, Cleveland, Ohio, \$8900; 54, Industrial Works, Bay City, Mich., \$8900.

Class 2.—Two derricks and accessories—Bidder 4, American Hoist & Derrick Company, St. Paul, Minn., \$1625.84 and \$1722.58; 30, Dobbie Foundry & Machine Company, New York, \$1722.50; 38, Fex Bros. & Co., New York, \$1733.58; 40, G. & W. Mfg. Company, New York, \$1410.97; 97, J. J. Shannon & Co., Philadelphia, Pa., \$1618.75.

Class 3.—Eleven radial drilling and countersinking machines—Bidder 21, Cleveland Punch & Shear Works, Cleveland, Ohio, \$430; 27, Detrick & Harvey Machine Company, Baltimore, Md., \$429; 37, Fairbanks Company, New York, \$355 and \$321; 38, Fox Bros. & Co., New York, \$371.37; 67, Manning, Maxwell & Moore, New York, \$318 and \$414; 96, Jos. T. Ryerson & Son, Clicago, Ill., \$500.

Class 4.—One 5-kw. turbo-generator—Bidder 44, General Electric Company, Hyde Park, Mass., \$709.

Class 23.—Twelve upright drills—Bidder 15, Buffalo Forge Company, Buffalo, N. Y., \$209.40 and \$190.80; 37, Fairbanks Company, New York, \$330; 38, Fox Bros. & Co., New York, \$230; 38, Fox Bros

\$142.56; 66, Manhattan Supply Company, New York, \$246; 67, Manning, Maxwell & Moore, New York, \$138; 89, Queen City Supply Company, Cincinnati, Ohio, \$183; 95, H. A. Rodgers Company, New York, \$149.88; 97, J. J. Shannon & Co., Philadelphia, Pa., \$198; 111, Vermilye & Power, New York, \$230.40; 119, J. B. Kendall Company, Washington, D. C., \$162.

The following bids were opened August 7, Circular No. 455, for one single and six duplex cableways for the Isthmian Canal Commission:

Class 1.—S. Flory Mfg. Company, Bangor, Pa., \$278,400; Lidgerwood Mfg. Company, \$309,000; New York Cableway & Engineering Company, New York, \$277,800; Balanced Cable Crane Company, New York, \$177,825.

The following bids were opened August 8 for the construction of a 100-ton floating derrick having a 15-ton auxiliary hoist for the navy yard, Puget Sound, Wash.:

Item 1. Price for one floating derrick complete in accord-

ance with plan and specification.

Item 2. Price for one floating derrick complete in accordance with plan and specification, except that the pontoon and fittings for pontoon will be furnished by the Government.

Item 3. Under this item bidders may submit proposals for

the complete work in accordance with the spirit of the specification, but with such modification of methods and details desire, provided all such modifications are fully specified or indicated upon plans accompanying the proposal.

Interstate Engineering Company, Bedford, Ohio, item 2, \$238,796; item 3, \$334,726. Wellman-Seaver-Morgan Company, Cleveland, Ohio, item 1, \$230,000; item 2, \$150,900; item 3, \$250,000, alternate \$164,000.

000.

Morgan Engineering Company, Alliance, Ohio, item 3, \$248, 185, alternate \$173,975; deduct \$10,000 if only one generator unit is used.

Brown Hoisting Machinery Company, New York, item 3a, \$281,600, without pontoon \$212,200; item 3b, \$240,000, without pontoon \$174,400; 3c, \$250,200, without pontoon \$183,600, Variety Iron & Steel Works, Cleveland, Ohio, item 3 complete, \$234,000, \$242,100, \$243,800, \$239,800 and \$244,100; without pontoon \$171,000, \$171,700, \$167,700 and \$170,000.

The following bids were opened August 6 for four steam boilers for the new National Museum, Washington:

Oil City Boiler Works, New York, \$19,792 for Roney stokers; \$22,542 for Taylor stokers.
York Engineering Company, York, Pa., \$17.825.
Heine Safett Boiler Company, Philadelphia, Pa., \$21,098 for Roney stokers; \$22,738 for Taylor stokers.
Babcock & Wilcox Company, New York, \$20,638 for Roney stokers; \$23,551 for Taylor stokers.

The following awards have been made for machinery for

the navy yards, bids for which were opened July 14: Berlin Machine Works, Beloit, Wis., class 41, one double surface planer, \$1804.15.

American Woodworking Machinery Company, Rochester, N. Y., class 42, one self-feed circular rip saw, \$260.

Under bids opened August 4 for supplies for the navy yards the Greenlee Brothers Company, Chicago, Ill., has been awarded class 32, one automatic saw and dado machine,

New Blooming Mill Contract.-Mackintosh, Hemphill & Co., Pittsburgh, have received a contract from the National Tube Company for a 40-in, two-high reversing blooming mill to be installed in the Bessemer steel department of its National Works at McKeesport, Pa., to roll blooms of all sizes and slabs about 24-in. x 3-in. in various lengths. The top roll will be balanced by hydraulic cylinders covered by the builders' own patents. The screw down arrangement for the top roll will be operated by a motor, as well as the tables proper. The majority of the table rollers will be of solid forged steel. The manipulator will be a combination of the patents owned by Julian Kennedy and Mackintosh, Hemphill & Co. The reversing engines to drive the mill are being shipped from the plant of the Illinois Steel Company at South Chicago, were built by the Mesta Machine Company, Pittsburgh, and are of the direct connected type, with cylinder 50 in, in diameter and 60-in, stroke. The mill is to be completed within four months.

Allegheny Steel Company Changes.—Some changes among officials of the Allegheny Steel Company, Pittsburgh, operating an open hearth steel plant and sheet and plate mills at Avenue, Pa., near Pittsburgh, have recently been made. The stock formerly owned by Captain Alfred Hicks has been taken over by other stockholders, and the following officers have been elected: Harry E. Sheldon, president and general manager; R. D. Campbell, vice-president and treasurer; F. H. Stephens, secretary and auditor. The company is operating its open hearth department 100 per cent.; sheet mill department, 65 per cent., and plate mill department, 70 per cent., and reports that business is slowly improving.

The British Foundrymen's Association.

At the fifth annual meeting of the British Foundrymen's Association at New Castle-on-Tyne, England, August 4 to 6, the membership of the association was reported as 320, a net gain of 70 in the preceding year. F. J. Cook, Birmingham, was elected president, and J. E. H. Allbut, Derby, secretary. R. W. Kenyon, Accrington, read a paper on "Securing Co-operation of Workmen in the Improvement of Shop Methods," and P. Munnoch, Middlesbrough, a paper on the "Application of Chemistry to the Foundry." Papers on foundry methods were presented by J. Smith and G. M. Riches. J. E. Stead, Bessemer medalist, Middlesbrough, gave a lecture on "Sulphur and Phosphorus in Iron." The speaker described the Bauman auto-sulphur printing process by which an approximation of the amount of sulphur in cast iron can be made by any intelligent boy in a foundry. Briefly it is as follows: "Pieces of ordinary bromide silver paper are soaked in 3 per cent. solution of strong sulphuric acid and water. These slips of paper are laid upon the polished surface, left in contact for one minute and then removed. Stains of sulphide of silver are thus obtained on the paper corresponding to the actual amount of sulphur in the casting." Another simple method by which a fair estimate can be made of the amount of phosphorus in pig iron or castings was given by Mr. Stead. It was shown that on etching the phosphorus portions with a 20 per cent. solution of nitric acid, these portions being quite independent of the other parts of the metal, they remain bright and clear, all the other parts having a darkened color. The comparison between Cleveland iron, containing 1.5 per cent. of phosphorus, and hematite, containing 0.04 per cent. of phosphorus, was very pronounced. In the former a large portion of the whole area consisted of white particles, while the white particles in hematite pig were distributed as minute spots over the surface.

In the United States Circuit Court for the Northern District of Ohio, Judge Tayler has filed an opinion in favor of the Westinghouse Electric & Mfg. Company in a suit brought by the company against the Electric Controller & Mfg. Company of Cleveland, in which the plaintiff alleged an infringement of the Lange and Lamme controller patent granted April 24, 1894. The claims sued upon relate to an improved construction of the controller drum whereby it can be easily and cheaply constructed and the electric circuits insulated from each other and from the controller shaft or ground. It is stated that only a limited number of controllers of this type has been built by the Electric Controller & Mfg. Company and that their manufacture was voluntarily given up three years ago; also that the decision of Judge Tayler has no bearing upon the standard lines of controllers manufactured by this company, which are widely used in the iron and steel industry. The case has been appealed to the United States Circuit Court of Appeals sitting at Cincinnati, Ohio.

The annual report of the Canadian General Electric Company for the 12 months ended December 31, 1907, shows profit on operation of \$722,433, against \$853,675 in 1906 and a deficit after dividends of \$133,773, against \$21,728. As a result the previous surplus has been turned into a profit and loss deficit of \$64,738. On April 1, 1908, a quarterly dividend of 1% per cent. was paid on the \$4,700,000 common stock and a semiannual dividend of 31/2 per cent. on the new preferred stock, reducing the annual rate on the common stock to 7 per cent. President W. R. Brock says: "The company has continuously, for the past nine years, paid a dividend of 10 per cent., but the directors have considered it prudent to make the reduction (to 7 per cent.) in view of the present uncertainty of trade conditions, which we may all hope will only be temporary."

The Youngstown Steel Company is rebuilding its Tod Furnace, at Youngstown, Ohio, and in addition is putting up a new steel bin system. . The new furnace is expected to be ready for operation in November.

HARDWARE

BILLBOARD advertising appears to have been overdone. The aggressive methods of the billboard advertising agencies in seeking locations likely to catch the eyes of large numbers of persons have awakened the resentment of those whose trade is sought. A strong feeling now exists against the defacement of landscapes in the rur?! districts and the wearisome obtrusion of advertising matter from all sorts of structures in cities and towns. It may be that merchants and even manufacturers will some day have to reckon with direct losses that will come from the use of billboard advertising. This was indicated shortly after the subway was opened in New York City. When it was observed that the beautifully tiled walls of the stations were beginning to be covered by billboards, the outburst of indignation was general, and though the boards were not removed their number has not grown. It is known that some of the most liberal advertisers decided that it would be injudicious to disregard the temper of the public. If the number of persons to whom billboards are offensive becomes large enough the possibilities of the loss of their trade will be worth considering.

A movement to abolish or at least reduce the billboard nuisance, which has crystalized in some localities in the passage of corrective ordinances, has assumed a national scope through the activity of the American Civic Association, an organization "for a better and more beautiful America." This society, which numbers among its officers and members many responsible citizens prominent for their public spirit, is now conducting a systematic campaign of education which is not unlikely to achieve results along the desired line. The association is, of course, attacking all forms of outdoor advertising which are unqualifiedly mischievous, such as those which are obscene or tend to lower public morals, those which represent an illegitimate use of public or private property and those which tend to jeopardize health or safety because they are unsanitary or calculated to increase danger from fire. Abuses in this category are declared to be of such character that they may be corrected by existing statutes.

It is recognized, however, that the billboard often represents merely an æsthetic offense which can hardly be dealt with except through an aroused public opinion. The association is therefore approaching the subject from the educational point of view and is circulating literature discussing various phases of the subject, and stating what has been done in certain American cities as well as in several foreign countries. One point which seems to be well taken is that to obtrude upon the public view glaring advertisements is just as objectionable as maintaining a nuisance which gives forth a foul odor or produces an irritating noise. As a result of this campaign many persons may make it a matter of principle not to patronize those who offend in this way. Of course, it will depend largely upon the line the merchant carries or the manufacturer produces whether he will be a loser by this form of objectionable publicity. In one case the damage done would be trifling as compared with the gain; the class of people addressed would make this so. On the other hand, those who carry or manufacture the more expensive classes of goods or cater to the well-todo public would undoubtedly experience no little harm as a result of the sentiment thus cultivated.

Condition of Trade.

The swift passing of the midsummer season is marked by few changes or noteworthy occurrences in the Hardware market. An exception is found, however, in the moderate advance which has taken place in Brass and Copper lines. In its fundamental features the business situation shows little alteration, although observers who cover the widest fields still maintain that they detect a steady though slight improvement in trade conditions. This, of course, is more distinct in some sections than in others, and is modified, especially in the larger centers, by the effects of the vacation season. Many large buyers are still pursuing a hand-to-mouth policy, and all are conducting their purchases on conservative lines, but there is here and there a hardening tendency in prices, which, if continued, is likely to encourage the placing of stock orders. In some instances extreme concessions have been withdrawn, and manufacturers in making their quotations are emphasizing the phrase "subject to change without notice." Further ground for the hope of material improvement in the volume of trade is found in the good crop prospects and the maintained improvement in the financial situation. Activity in some seasonable lines has now begun. Salesmen returning to their territories report that stocks are low and conditions promising for the fall trade.

Cleveland.

THE W. BINGHAM COMPANY.—The volume of merchant trade for the month of July just past shows up very favorably as against July of last year, for we find that the greatest falling off of trade is in the larger cities where dealers supply the manufacturing plants, mines and rallroads. It would seem that they must come into the market soon to replenish the depleted stocks in their storehouses, and with the immense crop of grain and fruit in sight we believe that trade and traffic in these branches of business will open up soon.

Orders from the country merchants are getting longer and for larger amounts, and the requests that accompany these orders are to ship at once. Merchants who put off ordering seasonable goods may have some difficulty in getting their orders filled promptly later on, for manufacturers and jobbers cannot always have in stock just what the customers want quickly, because there are so many different sizes and styles of the different lines, and it is impossible to keep an assorted stock on hand, especially at the time of the year when everybody wants goods shipped immediately. So our advice would be for merchants to anticipate their wants at least 60 days ahead of time in order that they may get the kind and assortment of goods they want. The prices are established and there will be no incentive to hold off on that account.

It is no trouble now to get from the larger jobbers the regular lines of goods that are sold every day, as their stocks are always complete on these lines, but the short season goods, such as stove boards, elbows, coal hods, axes, snow shovels, ice skates, hand sleds and the like, should be ordered months ahead of the time they are needed in order that manufacturers may have plenty of time to make them up properly, and the jobbers to have them in stock, so that they can be shipped to their customers at the proper time.

A large amount of ore is coming down from Lake Superior by the big freighters to be distributed to the different furnaces in Ohio and Pennsylvania, and they are carrying back to the Northwest vast quantities of coal.

On account of the large number of trunk lines centering in Cleveland, and also the many elegant passenger boats that are daily plying between eastern, western and northern ports, thousands of excursionists are coming to and going through Cleveland. These outings put a lot of money into circulation. The rates are low and the people in the interior we think are taking advantage of the excursions this year more than ever on account of the good accommodations and extremely warm weather we have had in the last sixty days. We Americans are a restless lot and must keep on the move.

On the whole, considering the times, trade and traffic with merchants is quite satisfactory.

Nashville.

Gray & Dudley Hardware Company.—While business so far in August has been better than it was in July, at the same time it has been a disappointment. Crop prospects throughout our territory are better than they have been for many years. Crops have so far advanced now that the splendid prospects ought to stimulate business. At this time in 1907 the crop prospect wasn't nearly so good, yet we had all the business we could handle. Collections are not as good as they should be under the circumstances.

Notwithstarding the dull business of the past ten months, people are optimistic and believe that surrounded by presperous conditions that they now have trade will be good later on. We hope the time will again come when good crops will mean good business.

The Tennessee Retail Hardware Association held its first annual convention in this city last week. They had a pretty good attendance of representative retailers from the various sections of the state. They seemed to be pleased with the result of the past year's work. They all report Fall trade as opening up late, but all expect good business.

Omaha.

Lee-Glass-Andreesen Hardware Company.—The month of August is seldom marked by any special activity in jobbing circles. The volume of current business still continues satisfactory. Trade conditions throughout the corn belt east and west of the Missouri River are in excellent shape. The real foundation of national prosperity, the season's crops, shows unmistakable stability, the cereal yield promising to be in excess of that of last year, the home consumptive demand greater than ever before, and the demand for export in excess of last year, which was something of a record breaker.

On the whole, prospects point to stronger conditions during the coming autumn and winter, and to complete retrievement before the end of the present year from the effect of the late New York crisis.

Portland, Oregon.

Falling-McCalman Company.—Business continues on the upgrade in all lines here as nearly as we can find out. The approach of election time seems to have no lessening effect on the gradual improvement of business, and we can see no reason why it should have any in the future. Conditions on the North Pacific coast should improve rapidly as well as steadily. Already there is more business being done in most lines in this city than there was one year ago to-day, and we look for a still further increase before the end of the year. We anticipate that, from all we can hear, this improvement will be general throughout the Coast. Our crops, as a whole, have turned out very well and we expect to get a fair price for them. As a result, collections are more than fair.

Louisville.

Belknap Hardware & Mfg. Company.—The market shows only moderate signs of animation. There is a fair run of orders, nobody excited enough to struggle to get in before the advance, no promise of advance in the near future. The weakest feature of the situation probably is the widespread publicity given to every little purchase of a few hundred tons of this or that kind of pig iron. Big head-lines are rushed in when a few cars or a small bridge is ordered, as though it were a matter of supreme importance, and bound to affect the destiny of the nation at large. The "Prosperity" and "Sunshine" go to cackling like hens in a barnyard—each one claims to have laid that particular egg.

Salesmen never were more industrious than they have to be right now. On the other hand, vacations were never so numerous, nor were they ever more willingly granted, as we are waiting more or less of the time for business to catch up with the organization, even with somewhat reduced numbers.

We get "Sunshine circulars" from one place, and prosperity assurances from another, with the broad information that we are over-happy, if we only knew it. We get comparative figures on exports showing how many more millions of dollars are flowing out in this way to our credit than have ever flowed before; then we read in some dependable commercial sheet that the shipping interests are in despair over the small tonnage which is going abroad, and that there are more empty bottoms afloat than can be counted.

Those who keep records of their own sales day by day and month by month realize the difficulty of making a profit when the plant is operating only part of the time. What is the reason of this? is the universal conundrum. The farmer certainly is getting good prices for his product. The laborer who can do any sort of work decently is not without employment, at full wages. Of course, the vast army of the inefficient, who enlist under the banner of Coxey at the slightest provocation, those, we have always with us, and they only wait for the suggestion of free soup houses to bring them to the surface.

One plausible theory is that after several years of prosperity, such as we have enjoyed, the people's wants are more nearly supplied. Implements, clothing, even luxuries, pianos, parlor organs and talking machines, have been supplied in such numbers that the general desire has been gratified and we must await a new generation of buyers, which may spring up in one year or two, we cannot tell.

Another theory is that this is legitimately the era of saving. The process of harboring one's resources is more attractive than spending. It does not stay this way long, however, and if the latter is the true state of the case there will shortly be a change.

For the present people can have what they want in a reasonable way, but if they do not want much it makes a dull market.

St. Louis.

Norvell-Shapleigh Hardware Company.—We continue to receive very favorable reports from both the corn and cotton crops. The hay crop has been harvested and it is the greatest in the history of the country. If present favorable conditions continue this year we will be blessed with a bumper corn crop and a very large cotton crop. It has been said in years past that the country never had a great corn crop and a great cotton crop the same year. But the exception often proves the rule.

The numbers of our orders, both from our salesmen and by mail, show a considerable increase over last year, but the total volume of our business still falls behind.

An analysis of our business the first six months indicates the principal loss was in what we call "future orders," that is, orders taken by our salesmen for future shipment. Our current business, that is, goods for immediate shipment from stock, has all along been running very close to the figures for the same class of business last year. Quantities have been smaller and therefore it has taken more orders to make up the same volume.

In the agricultural sections, not only in the far West but in the South, it is evident from the way merchants are buying that they have more confidence in the situation. As merchants have not placed large advance orders for seasonable lines, if there is a very active demand from consumers for these goods there should be a heavy late business on this class of merchandise.

We have noted this characteristic in our business during the Spring months. On many lines of seasonable goods the sale from stock was much heavier than in previous years when retail merchants ordered early and we shipped the goods direct from the factory to our customers.

In times like these the value of the jobber's stock to

the retail merchant is emphasized. The jobber is practically a warehouse from which the retail dealer can draw his goods without delays in large or small quantities, just as he needs them.

The fact that our mail order sales have been better in proportion than any other part of our business is an indication that retail merchants are running their stocks very close, buying goods often, and are sending mail orders instead of waiting the visits of salesmen.

A hopeful sign of the times is in the number of new stock orders that are being placed. In one mail this week we received three complete new stock orders. In the month of July the number of new stocks we sold was only one less than in the same month last year.

We are receiving many inquiries from merchants for good places in which to start business or for opportunities to buy established stocks. We are receiving more letters from merchants who desire to go into business than from those who desire to sell out. We have a regular bureau for this class of correspondence. We keep an up-to-date record of good openings. This information is given us by our one hundred and seventy-five traveling salesmen from all parts of the country. We also give information of this nature, monthly, in our little house organ, "The Gimlet."

There is a marked difference in the condition of business this year in the large cities and manufacturing towns when compared with the agricultural districts. Where manufacturers have reduced their force or reduced the numbers of hours of work it of course has seriously affected the buying power of their workingmen. If these manufacturers do not resume this Fall savings will be used up and it will be a hard winter for many workers and their families.

A prominent packer informs me while the demand for the best cuts of meat has continued almost without interruption, there has been a heavy falling off in the call for the cheaper grades of meat. He states this means the workingman has not been eating as much meat. This packer states this condition has led to the recent unusual advances in the price of hides. He tells me formerly hides were simply one of the by-products, but now they are becoming an important source of revenue to the butcher. He also remarked that low-priced meat is passing away with low-priced land, that in these days cheap ranges for cattle have become a thing of the past.

Among the interesting changes taking place in the trade is the passing of the barber and of the palatial tonsorial parlor. It is now almost impossible to find a first-The best men are leaving the business. class barber. Money is not being invested in fairy palaces of barber shops with mirrors, gilding and frescoed walls. The barber shops are leaving the main-traveled thoroughfares for side streets and basements. The boss barbers tell me it is almost impossible to get good men. Only the inefficient are staying in the trade. All this is clearly the result of the safety razor. The call of "next" has ceased to be heard in the land. A new idea has almost completely changed the conditions surrounding a great industry. The world waits for the invention of a patent home hair cutter.

The world do move!

NOTES ON PRICES

Wire Nails.—Conditions continue to show improvement, and some Wire Nail manufacturers are running their mills nearer their full capacity. Jobbers' orders are larger in volume and requests are for prompt shipment, while some contracts are also being placed. The increased business is attributed to the present and prospective stability of the market. Quotations for base sizes are as follows, f.o.b. Pittsburgh, plus actual freight to point of delivery, 60 days, or 2 per cent. discount for cash in 10 days:

Carloads, to jobbers\$1.9	5
Carload lots to retail merchants 2.0	0
Less than carloads to jobbers 2.0	0
Less than carloads to retail merchants 2.1	0

New York.—Local demand keeps in the same volume as for some time, requirements being met by small lots.

Nails are held on the basis of \$2.30 per keg in small lots at store,

Chicago.—Wire Nails continue to make the best showing of any branch of the iron trade in the West, owing to the activity in building operations in the agricultural sections, where advantage is being taken of the low price of lumber. The mills are running about 80 per cent. of capacity and are not always able to respond to the demands for immediate shipment. Quotations are as follows: \$2.13, in car lots to jobbers, and \$2.18, in car lots to retailers, with an advance of 5 cents for less than car lots from mills.

Pittsburgh.—The impression is becoming stronger among the large buyers of Wire Nails that the market will not be any lower, but on the contrary, if a change in prices is made, it will be an advance, and for this reason they are placing larger orders and buying ahead for the first time in some months. While the volume of new business is not abnormally heavy, it is larger than for some time, and the leading makers of Wire Nails are able to operate to nearly full capacity. Stocks held by jobbers are light, which is indicated by the fact that nearly all orders carry a request for prompt shipment. We are advised that prices are being maintained absolutely by the leading mills. Quotations for base sizes are as follows, f.o.b. Pittsburgh, plus actual freight to point of delivery, 60 days, or 2 per cent. discount for cash in 10 days:

Galvanized Nails are quoted at \$1 over the price of the regular Nails.

Cut Nails.—A slight improvement is noted in the demand from mill, but neither the size of orders nor volume of business is large. Quotations on Steel Nails are on the basis of \$1.80 per keg, at mill, \$1.75 being obtainable on the most desirable business. In the Western market Iron Cut Nails are held at an advance of 10 cents per keg over Steel Cut Nails, but this differential is not observed in the East.

New York.—The local demand for Cut Nails is somewhat less than the usual proportion to Wire Nails. Steel Cut Nails are held on the basis of \$2.15 per keg, for small lots at store,

Chicago.—There is a fair volume of business, but no large orders are being placed. Jobbers buy only in small lots for immediate shipment. We quote Chicago prices as follows: In car lots to jobbers, Iron Cut Nails, \$2.08; Steel Cut Nails, \$1.98. In small lots from store: Iron Cut Nails, \$2.25; Steel Cut Nails, \$2.15.

Pittsburgh.—The tone of the market is slightly stronger, and the amount of new business being placed with the mills is a little larger. However, buyers are usually confining their purchases to small lots for actual needs. Quotations on Steel Nails are on the basis of \$1.80 per keg, at mill, \$1.75 being obtainable on the most desirable business. In the Western market Iron Cut Nails are held at an advance of 10 cents per keg over Steel Cut Nails, but this differential is not observed in the East.

Barb Wire.—New business continues light, and mills are still shipping on old contracts. The demand is satisfactory for the season, with prospects for increased volume later on. Regular prices are reported as being maintained. Quotations are as follows, f.o.b. Pittsburgh, 60 days, 2 per cent. discount for cash in 10 days:

	Painted.	Gal.
Jobbers, carload lots	\$2.10	\$2.40
Retailers, carload lots	2.15	2.45
Retailers, less than carload lots	2.25	2.55

Chicago.—The wire mills are enjoying the advantage of being in touch with the farmer and sharing in his prosperity. The volume of business is very satisfactory for this season of the year, with some difficulty in making shipments as promptly as the jobbers are disposed to demand. Quotations are as follows: Jobbers, Chicago, car lots, Painted, \$2.28; Galvanized, \$2.58; to retailers, car lots, Painted, \$2.33; Galvanized, \$2.63; retailers, less than car lots, Painted, \$2.45; Galvanized, \$2.75; Staples, bright, in car lots, \$2.25; Galvanized, \$2.25; car

lots, to retailers, 10 cents extra, with an additional 5 cents for less than car lots.

Pittsburgh.—The mills have little new demand, but are mainly shipping against contracts placed some time ago. A larger demand is expected in the near future, particularly from the Northwest. The leading mills are absolutely maintaining prices. Quotations are as follows, f.o.b. Pittsburgh, 60 days, or 2 per cent. discount for cash in 10 days:

	Painted.	Gal.
Jobhers, carload lots	\$2.10	\$2.40
Retailers, carload lots	2.15	2.45
Retailers, less than carload lots	2.25	2.55

Plain Wire.—A decided improvement is reported in demand from both manufacturers of Wire Fencing and Implements, as well as from other sources. The market is reported firm at regular prices. Quotations per 100 lb. to jobbers in carload lots are as follows, on a basis of \$1.80 for Plain and \$2.10 for Galvanized, f.o.b. Pittsburgh, 60 days, or 2 per cent. discount for cash in 10 days, the price to retailers being 5 cents additional:

Chicago.—The high prices which farmers have been receiving for live stock this year and good crop conditions have stimulated the demand for Wire Fence, and the Wire mills are booking good orders from the Fence manufacturers. In other directions the demand for Plain Wire is also improving. We quote as follows: Car lots to jobbers, \$1.98, f.o.b. Chicago, and to retailers, \$2.05.

Pittsburgh.—New business in Plain Wire is getting heavier, Fence manufacturers and Implement makers buying in larger quantities than for some time. It is stated that the leading mills now have a larger tonnage in Plain Wire on their books than at any time this year. The market is firm, and there are intimations of an advance in prices, but these are not officially confirmed and are thought to be incorrect. Quotations per 100 lb. to jobbers in carload lots are as follows, on a basis of \$1.80 for Plain and \$2.10 for Galvanized, f.o.b. Pittsburgh, 60 days, or 2 per cent. discount for cash in 10 days, the price to retailers being 5 cents additional:

Brass Cocks.—The improvement in the Brass and Copper market has not been without effect on the steam and water Brass goods handled by the Hardware trade. Quotations on Valves, Stop and Waste Cocks, Compression Bibbs and Hardware Grade Cocks are from 5 to 10 per cent. higher than a few weeks ago and are decidedly firm. Considerable buying is said to have been done by the larger trade in anticipation of the advance.

Coil Chain.—A movement is on foot on the part of leading manufacturers of Coil Chain to correct the conditions which have for some months kept this market in a demoralized state. It is reported that a conference was called for the present week, which may result in greater regularity and a moderate advance in prices.

Lace Leather.—Owing to the advance in the price of green hides to close to record figures, there has been a sharp upward movement in Leather Belt Lacing. The change in the market is felt more quickly in Lace than in belting, because the former is nearer to the green hides. Cut Lace may now be quoted at a discount of 50 and 10 per cent., and Sides at 22 to 23 cents per square foot.

Scythes.—Those who have a good interest in that trade are giving some attention to the Scythe market, which will open shortly. As the arrangements of last year are unlikely to be continued, and there has been a material change in general conditions, some reduction in price would not be unexpected.

Bolts and Nuts.—The market for Bolts and Nuts shows a hardening tendency. Considerable buying is going on and some manufacturers have withdrawn their extreme quotations.

Lawn Mowers.—The quotations of most manufacturers of Lawn Mowers confirm the impression previously held that there would be few, if any, changes from last season's prices.

Shot.—A decline in Shot of 5 cents per 25 lb. bag has been announced by the leading lead companies. Quotations are now as follows:

			Per		Per
		Bags.	bag.	Bag.	bag.
Drop	Shot, sizes smaller than B	. 25 lb.	\$1.75	5 lb.	\$0.40
Drop	Shot, B and larger sizes	. 25 lb.	2.00	5 lb.	.45
Buck	and Chilled Shot	. 25 lb.	2.00	5 lb.	.45
Dust	Shot	. 25 lb.	2.30	5 lb.	.50

The usual concession of 10 cents per bag of 25 lb. is offered on ton lots or larger.

Window Glass .- To-day (Wednesday), there is scheduled a meeting of the manufacturers of hand blown Glass at Atlantic City, where among other matters an advance in prices, it is supposed, will be considered. Conservative manufacturers think an advance at the present time would be ill advised, as it would induce small manufacturers to start up their factories to the injury of jobbers who have fairly large stocks on hand. It is reported that the sliding scale of wages has been extended to cover the month of September, while it is understood by some that the arrangement covers the entire fire. Another matter will probably be brought to the front at today's meeting of manufacturers, and that is the organization of hand manufacturers with some plan for the distribution of their product. In this plan is included the co-operation of the hand manufacturers and the American Window Glass Company for the general good of the trade. Manufacturers are reported as regarding the distribution of Window Glass as showing no recent change in volume. Jobbers' quotations from jobbers' list, October 1, 1903, for all sizes of single and double strength Glass for the entire country is 90 and 20 per cent. discount.

Rope.—The movement of Rope continues as good as at the date of our last report. Some manufacturers report sales for June and July fully up to those for the corresponding months of last year. This, however, is an exception to the general rule. A quotation of 9½ cents was recently made on Pure Manila Rope as the result of competition. Sisal Rope is also somewhat easier. Quotations for Rope 7-16 in. in diameter and larger, are as follows: Pure Manila, 9½ cents; Pure Sisal, 7 cents; No. 1 Jute, ¾ in. and up, 5¾ cents; No. 2 Jute, ¼ in. and up, 5¼ cents.

Linseed Oil.—The substantial advances in the price of seed resulted in the advance of Oil. The advance brings the price of car lots up to those which have been asked for jobbing lots of five barrels or more, and also brings the price of State and Western up to those of city brands, which have not as yet been advanced. Under normal trade conditions, with the present high prices of seed and the light stocks of both seed and Oil in crushers' hands, Oil would probably command between 50 and 60 cents per gallon. It is probable that out-of-town Raw in car lots could be obtained on a bid of 43 cents. Quotations are as follows: Western Raw, car lots, 43 to 44 cents; State and Western Raw, barrel lots, 44 to 45 cents per gallon. Boiled Oil is 1 cent per gallon advance on Raw.

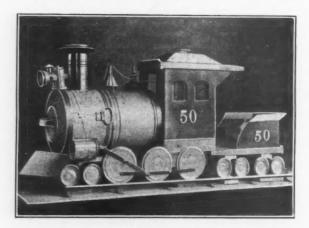
Spirits Turpentine.—Following the easier tone of the Savannah market, prices have fallen off 1 cent per gallon from last week's quotations. Demand at this point is light and of a hand-to-mouth character. The New York market is represented by the following quotations: Oil Barrels, 38½ to 39 cents; machine made Barrels, 39 to 39½ cents per gallon.

THE LISK MFG. COMPANY, Canandaigua, N. Y., has resumed operations and reports a large number of orders on hand. The company states that over 70 salesmen are on the road, and the prospects are regarded as excellent for a good volume of business this fall.

ARTHUR S. HOBDAY, for the past 10 years North Carolina representative of the Biddle Hardware Company, Philadelphia, has accepted a position to travel for the Peck & Mack Company, 356 Broadway, New York City.

Hardware Locomotive.

THE accompanying illustration shows a locomotive made of Hardware commodities which was used as a window attraction by A. Melohn in the Belmont avenue branch store of F. Melohn, Chicago. A Garbage Can set on a One-Burner Gas Plate was used to represent the Boiler with a Bicycle Lamp in front for a headlight. An inverted Funnel with a piece of Picture Chain attached served as Bell and Bell Strap, while a Gas Cock took the place of the Whistle. The smokestack was made of 5-in. Stove Pipe with a collar at the top. The cowcatcher was made of a piece of Tin and Tinpot Covers served as drive wheels, with a 1-pint Pail as a cylinder and a 5-ft. Rule as a piston and connecting rod. The cab was made of four Ash Sifters, a Wash Board and a Roasting Pan The tender was Cover, and the sides of Roofing Paper. built of Roofing Paper, tacked on a Wash Board as a floor. Pint Pail Covers represented the small wheels, and six Bread Pans served as carriages above the axles. The



Hardware Locomotics in Window of F. Melohn, Chicago.

numbers were Aluminum House Numbers. Five-foot Barn Door Rail served as a track, affording a very natural setting for the machine, which attracted much attention and favorable comment.

Louisville Axe & Tool Company.

THE LOUISVILLE AXE & TOOL COMPANY, Highland Park, Ky., a suburb of Louisville, which entered the market originally about March 1, shut down on August 1, for the purpose of installing additional manufacturing equipment. The factory had been steadily turning out goods, but conditions warranted increased facilities, which it was decided should be put in now. W. J. Sager, general manager, formerly with the Warren Axe & Tool Company, reports that there are orders enough now in hand to keep the plant busy for some time, and that the betterments will give the company a producing capacity of 150 dozen axes per day. M. T. Christopher, vice-president, in charge of the New York office, 97 Warren street, is looking after the export and domestic trade in the East. The other officers are J. A. Stewart, president; B. F. Fitch, second vice-president, and J. D. Augustus, secretary and treasurer. The product includes many patterns of axes and some styles of edge tools of kindred character.

Hermann Boker & Co.'s New Tool Department.

ERMANN BOKER & CO., 101-103 Duane street, New York, for some years sole agents for the United States and Canada for Jonas & Colver, Ltd., Continental Steel Works, Sheffield, England, manufacturers of Novo and Intra Steels, have been compelled to largely increase their facilities at the above address. They have taken the street floor and basement in their building for a new department in the steel business. Originally they marketed the raw material to be fabricated into tools, &c., by manufacturers, but the question frequently arose as to the adaptability of the raw material for certain uses. Sometimes this phase of the question caused the house to demonstrate practically their faith in the product, which resulted in the putting on the market of various small tools. Started in a small way, the goods, we are informed, became so popular that the line has gradually grown until now it includes comprehensive assortments of Twist Drills, Milling Cutters, Taps, Tool Holder Bits, Hack Saws, &c., all of which are manufactured here. While at first the goods were made as a convincing demonstration of the quality of the material to influence sales of steel, the response has been such that customers are continually increasing their purchases and the line is being enlarged as a permanent business. The Novo Steel is particularly for high speed tools, the Intra brand being an intermediate quality between high speed grade and a good carbon steel.

TENNESSEE RETAIL HARDWARE ASSOCIATION.

THE Tennessee Retail Hardware Association, which was organized last summer, held its first annual convention at the Tulane Hotel, Nashville, on the 12th and 13th inst. The attendance was gratifying, members of firms from all sections of the State being present. Addresses of welcome were delivered on the part of the city by Hon. Joseph W. Byrns, and on behalf of the local Hardware jobbers and manufacturers by R. M. Dudley, president of the Gray & Dudley Hardware Company. A response to the addresses of welcome was made by M. A. Walker, Covington, on behalf of the association. Charles H. Williams, Streator, Ill., vice-president, represented the National Retail Hardware Association, and spoke in a general way of the work of the various State organizations as affiliated with the national body. The report of Secretary-Treasurer M. Richardson, Lawrenceburg, Tenn., showed that the association was in good financial condition.

On Wednesday afternoon the members visited the plant of the Phillips & Buttorff Mfg. Company, where they were handsomely entertained. The Thursday morning session was adjourned early, to permit the members to participate in a trolley ride, after which they were taken to the Duncan Hotel for dinner, the Gray & Dudley Hardware Company being the host for both functions.

About 20 new members were taken into the association at the meeting, and it now numbers more than 50 houses.

Chattanooga was decided on as the place for the next convention, the date being left to the Executive Com-

Election of Officers.

The election of officers for the ensuing year resulted as follows:

follows:

PRESIDENT, J. D. Dobbins, Columbia.

FIRST VICE-PRESIDENT, William Hager, Hartsville.

SECOND VICE-PRESIDENT, Fred J. Warner, Memphis.

SECRETARY-TREASURER, M. Richardson, Lawrenceburg.

ENECUTIVE COMMITTEE: J. D. Dobbins, Columbia; M. A.

Ting Gallatin; J. G. Vaughan, Winchester; William Tucker, EXECUTIVE COMMITTEE: J. D. De Ewing, Gallatin; J. G. Vaughan, Win Jr., Ripley, and J. F. Parker, Martin.

Jobbers Selling to Consumers.

The Question Box was, of course, a feature of the association programme, and brought about a good deal of discussion on topics of practical interest. Perhaps the most interesting question of the series was "Should legitimate dealers and members of this Association patronize jobbers who maintain a retail department in connection with their jobbing business?" It was unanimously conceded that the selling by jobbers to contractors and consumers generally was more detrimental to the regular Hardware merchant than the competition of the mail order houses. The members felt that they would like to see the jobbers confine themselves to jobbing and permit the retail merchant to do the retailing. In this connection, the injustice done the Hardware retailer by the jobber when selling the druggist baseball supplies and fishing tackle (which he carries a stock of) to sell him also Screen Doors or an Ice Cream Freezer for the druggist's own use, was enforced. It was felt that the latter goods should be bought by the druggist from the local Hardware merchant handling them.

Benefits of Selling Hardware for Cash.

The following suggestive and stimulating paper, pointing out the benefits derived from conducting the Hardware business on a cash basis, was read by W. A. Hutton, W. A. Hutton & Co., Gallatin, Tenn.:

Every retail dealer, large or small, who sells on credit is deeply interested in the cash system, and it may be said there is not a single merchant who would not prefer to aban-

don credit for cash if he thought it could safely be done. The question is one which concerns particularly the dealer in the small town, for here credit is deeply rooted, and there is an element of the population which must be delicately handled in breaking away from the time honored customs.

Cash Merchant Has an Advantage.

In the first place, I wish to state that the man who can adjust his business so as to get down to a strictly cash basis will have an advantage over his brother who gives credit that will fortify him against every possible chance of failure. That is, he will if he is a business man. No tradesman can



W. A. HUTTON.

have as satisfactory and money making an occupation as the one who deals for cash or its equivalent. Men may argue that it is possible to grow rich and succeed in giving crediit, but look over the cause of business failures and 90 per cent. of them will be found to have done an abnormal amount of credit giving to irresponsible parties.

Excuses Offered for Not Adopting Cash Basis.

The first excuse a dealer gives for not coming right down to selling goods for cash is that he can't afford it: he is afraid he will offend some one. Another frequent excuse given by dealers against changing from credit to cash is that farmers cannot pay every time when getting goods.

ers cannot pay every time when getting goods.

Right here I want to state that they can pay better than any other class. Did any dealer ever know of farmers selling their grain, hay, horses, cattle, chickens or anything else on six months' time? And yet, if you permit it, farmers will ask you to sell them your goods (which represent cash, labor and raw material just as much as their produce does) on credit, to be paid for when they feel like it. It is not a fair division of burden, and dealers who give credit carry the heavy end.

A Matter of Education Simply.

Credit business or cash business is but a matter of education. If a farmer has been taught he can buy goods on long time he will continue to ask for credit, even with money in the bank or in his pocket. And this same man who has been educated to credit will not pay for his purchases until forced to do so.

On the other hand, if a dealer has established a reputation for selling only for cash no one asks him to extend credit. Men who want his goods always manage to have the necessary amount of cash, or are willing to give a bankable note when purchases are made.

able note when purchases are made.

A credit giving dealer is asked to sell goods as close as competing cash stores and mail order houses. Customers who want credit in most cases demand cash prices.

cash discounts, so necessary to the success of any business, cannot be taken advantage of at all times by dealers who have goods trusted out, unless they go to the bank for accommodation. This being true, the dealer must pay interest for said accommodation, while he cannot charge interest upon the amounts due him on open accounts on his ledger.

Can Sell 10 Per Cent. Cheaper on Cash Basis.

It has been roughly estimated that goods can be sold on a strictly cash basis 10 per cent. cheaper than where promiscuous credit is extended. The one great item of expense in doing a credit business is the unavoidable loss from bad accounts, which will amount to 2 to 3 per cent. of the yearly sales, no matter how good a system of credit ratings is maintained. If 50 per cent. of sales are credit sales, this means a proportionate loss of from 4 to 6 per cent. of the credit sales only. The cost of bookkeeping, collection, loss of interest on outstanding capital and neglected opportunities of taking advantage of cash discounts will easily swell the cost of doing a credit business up to 8 or 10 per cent. of gross huminess done.

There is a vast saving in bookkeeping to the man whose transactions are made on the cash basis. In fact, this part of his business needs to be only the simplest possible. Having no bills receivable, the cash dealer does not need statements, dunning letters and postage stamps to urge customers to pay up when their accounts are overdue.

When an article is sold for cash the transaction is buttoned up right there. The deal is closed up when the article is delivered and the money in the cash drawer. Where can any credit doings be as profitable or ideal as this?

Credit Does Not Beget Friendliness.

There is not a friendly feeling between debtor and creditor. It is well known that a man who owes another either fears or hates his creditor. Therefore credit is contrary to nature.

This does not apply to those who meet their bills promptly. About 50 per cent, meet their obligations promptly and always pay before you have to send them a statement. It is the 50 per cent, that do not settle until you send two or three statements, or finally a letter, that causes the unfriendly feeling I refer to.

It's a Good Way to Live,

this selling for cash. No worry, no bother, no losses, no failures. The man who buys and sells for cash always has the goods that represent his expenditures, or the cash that represents sales and profits.

that represents sales and profits.

Every man who buys and sells for cash is in position successfully to cope with the catalogue houses. He can meet their prices and in some instances undersell them. Every transaction turns its quota of profits in to the proprietor. No part of it can be considered as possibly lost through some buyer who does not or cannot settle.

Cash Merchant Can Buy Cheaper,

At the outset the man in business who sells only for cash can go into the open market and buy cheaper than the one who uses his rating. Having money to pay for what he buys, he can take advantage of every turn of the market that lowers prices. It often happens that manufacturers and jobbers are willing to give still greater inducements than their regular discounts for cash to the customer who will offer to pay cash upon delivery of goods. The time will come when the credit system will everywhere be a relic of the past.

Merchant Can Hold His Own.

The dealer will hold his own against outside competition in just that degree in which he adopts systems which have been tried out and found successful in large towns and cities whence his severe competition comes. The growing use of retailers' catalogues and mail order systems, as well as suburban electric railroads, which are tapping his territory and making it easier for people to go to the city to do their shopping, will force him to adopt the cash system sooner or later.

Qualifications Required.

Any dealer with a reasonable amount of capital, good judgment, a little experience, plenty of knowledge of human nature, and nerve sufficient to stand on his own feet, can make his business a success and put same on a good solid footing on the cash system or settlement basis.

footing on the cash system or settlement basis.

Of course the "never pay" will object to this, but the dealer does not want this class of trade, and it would not be long before the "never pay" would be a thing of the past. The sooner dealers get this cash system established and conduct their business along these lines the sooner they will be in position to meet the competition of their more progressive competitors.

Giving Time on a Cash Basis.

When necessary to give a man time to sell him on a cash basis, then sell him on the time he needs same as if he went to the bank to borrow the money, by adding the same rate of interest, and have him give a note that can be used at the bank. Such a transaction is practically the same as a cash deal, and would put the dealer in such a position that he would be able to use same as collateral should it be necessary to take care of his own obligations in order to secure his best cash prices. Credit is nothing more than a loan of money without security or interest.

Personal credit is a remnant of old methods which must go A retail store should not be a lean institution where

Personal credit is a remnant of old methods which must go. A retail store should not be a loan institution where customers are given free use of the dealer's money for a period of time, pay it back or not as they please. If the dealer is compelled to pay his bills in 30 or 60 days, is it good business to allow customers anywhere from six months' to a year's time, as many are doing?

More Customers Are Lost by Allowing Credit

than by refusing it, and the ones driven away by refusing credit to them almost always come back, while the man who owes you what he does not intend to pay will never come back.

So much for argument against giving credit. There is not a city or town where a cash business cannot be successfully inaugurated and carried out. The only question is, Are you ready to make the change? Study this proposition carefully, for, as stated, it will have to come sooner or later.

THE name of the Southington Cutlery Company, Southington, Conn., has been changed to the Southington

Hardware Company. The company disposed of its Cutlery business a few years ago, it being divided among different manufacturers, and does not now make Cutlery or Razors. Consequently the old name became misleading and the change to the Southington Hardware Company was made. The company states that it is enlarging its regular line of Carpenters' Tools, consisting of Squares, Try Squares and Bevels, Curry Combs and Hardware specialties, and is making a complete line of Wood Screws. C. E. Jennings is the president and treasurer, J. H. Baldwin, secretary, and M. B. Wilcox, assist-

Michigan Retail Hardware Association.

THE fourteenth annual convention of the Michigan Retail Hardware Association was held at the Hotel Cadillac, Detroit, on the 12th, 13th, and 14th inst. It was a notable convention and was largely attended by the members and by representatives of manufacturers and jobbers. The registry was a little short of 400 members and associate members, though there were quite a number in the city who did not register. Instead of the entertainment features being handled by the local Hardware and other interests they were this year taken care of by the manufacturers and wholesale merchants comprising all industries in Detroit, the date of the meeting being arranged coincidently with the Buyers' Excursion to Detroit, when inducements for merchants in different lines of trade to visit the city were offered. As a result, there were perhaps as many as 5000 outside merchants in Detroit during the week.

As in former years, the exhibits of Hardware manufacturers and jobbers were an important feature of the convention. These were installed upon a portion of the ground floor and the first and second floors of the Cadillac. A number of representatives who were in attendance made no display of goods, but kept open house for the entertainment of visitors.

Among the distinguished guests present were A. T.

Grand Rapids, were appointed sergeant-at-arms and assistant sergeant-at-arms, respectively.

President Alden's Address.

C. M. Alden, Grand Rapids, delivered an able address as president, and from it we make the following extracts:

Our association is now convening for the fourteenth Born in 1895 in the midst of the panic with a membership of 95, we have grown to nearly 700, and having passed through one of the greatest periods of prosperity ever experienced by the American people, we are compelled to

face once more another flurry of commercial depression.

I say compelled, because it seems to have been forced upon us, but thanks to the American grit, we are gradually but surely beating back the demon of despair, whose clouds obscured for a while the sunlight of confidence, and with optimistic eye, we discern the return once more, of pros-

The past year has been one of test for the association. As individuals we have been engaged in a commercial struggle with this financial stringency, and with limited sales and profits. As an association we have been kept busy fighting the catalogue house and parcel post through our Legislative Committee and have demonstrated our strength and our influence upon the action of legislators, also upon manufacturers and jobbers selling to catalogue houses. Over these discouragements, we have conquered, and as we look back



P. A. WRIGHT.



C. M. ALDEN.



CHAS. A. IRELAND.



A. J. SCOTT.

Stebbins, Rochester, Minn., president of the National Retail Hardware Association; S. R. Miles, Mason City, Iowa, and W. P. Bogardus, Mount Vernon, Ohio, former presidents of the National Association; C. F. Ladner, St. Cloud, Minn., president of the Minnesota Hardware Mutual Fire Insurance Company; C. A. Peck, Berlin, Wis., secretary of the Wisconsin Retail Hardware Association; J. R. Hambly, Barrie, Ontario, president of the Ontario Retail Hardware and Stove Association, and George M. Gray, Coshocton, Ohio, secretary of the Ohio Hardware Dealers' Mutual Fire Insurance Company. All of these gentlemen were called upon during the convention and made addresses.

Convention Committees.

The following committees to serve the convention were appointed by President C. M. Alden:

appointed by President C. M. Alden:

CREDENTIALS: P. A. Wright, Holly; Mr. Stadt, Grand Rapids;
H. C. Waters, Paw Paw.

Nominations: Chas. A. Ireland, Ionia; John Popp, Saginaw;
M. A. Benson, Saranac; S. S. Boyce, Port Huron; E. J.
Hallett, Pontiac; R. M. Porter, Williamston; Charles
Drury, Cadillac.

QUESTION BOX: C. A. Peck, Berlin, Wis.; H. R. Rice. Croswell;
Wm. DeKreif, Levering; J. W. Hallett, Carson City.

RESOLUTIONS: F. A. Marshall, Ovid; C. E. Dickinson, St. Joseph; A. Harshaw, Detroit.

ADDITING: Geo. J. Frank, Bay City; O. H. Hall, Alblon; J. M.
Williams, North Adams.

CONSTITUTION AND BY-LAWS: Frank J. Trude, Traverse City;
E. S. Hart, St. Clair; I. Truax, Birmingham.
J. H. Temmerink, Greenville, and J. J. Vander Meer,

over the years of our existence, we can record another year of success.

A Dignified Business.

The more we make a careful study of our business and endeavor to conduct it on the proper basis, we are impressed not only with the dignity it bears, but its tendency to in-telligently educate and elevate. Among the many dealers in merchandise, the Hardwareman is the most honorable, in one respect. He is the last one to encroach upon a commercial

territory of other lines.

While you see dry goods stores, groceries and many other stores with Hardware upon their shelves, it is very seldom that you find any other merchandise than Hardware upon our shelves.

These other merchants adopt the department store plan and select a cheap grade of goods, and often sell them regardless of cost, using this method to attract trade their way. It is a piece of commercial felony, which legislation cannot check, the solution of which depends wholly on the moral modesty of honest men to refrain from its practice.

Notwithstanding our sentiments on the department store question, the fact remains that being legitimate they have come to say. They have absorbed to a great extent our stove trade in large cities. They are in a positioin to furnish our customers all they require to furnish a home complete on one book account or lease on the easy payment plan, and the problem is up to the Hardware dealers either to adopt this plan, or go out of the stove trade. Many hardware mer-chants are adding furniture and other household goods to their line, which is proving to be very satisfactory.

It would be well for us to study this matter, very thoroughly, at any rate, do not lay down in despair. It is the man that succeds who discovers in himself, the ability to do things, and realizes that power to grasp opportunities by the forelock instead of by the coat tail.

Parcel Post Legislation.

This address would be incomplete, and disappointing to my hearers, if the question of domestic parcel post was over-looked. It is a question that has ever been before us, and never will be allowed to get behind us. The postal system of the United States was originally based on a single object, that of the transmission of intelligence, and was never in-tended as a means of competition in a commercial way, with private, or corporate transportation companies.

After conversing with the average citizen on this subject, two facts are evident:

1. The difference between foreign and domestic Parcel Post is not thoroughly understood.

2. When clearly understood, domestic Parcel Post will meet with public disfavor.

The popular American mind can be trusted to decide any issue right in nine cases out of ten, if it has had a chance to understand it. Therefore a systematic method of instrucshould be started, and literature condemnatory to its establishment, showing its evil effects, in a public way sent broadcast throughout the country.

with personal work on the part of merchants inter-

ested, will bring victory, eventually.

The Catalogue House Problem.

The question of catalogue house competition is a trying one—its solution is far in the distant future, yet we can console ourselves with one condition, as a result of association

work. We've got them on the run.

It is difficult for them to obtain any goods of a standard products of inferior brand, being confined to seconds and products of inferior manufacturers, for the list of manufacturers and jobbers who refuse to sell catalogue houses is increasing yearly.

In summing up this question, I would make three sugges-

tions to meet this unfair competition:

1. That the Hardwaremen endeavor, with as little publicity as possible, to organize all merchants in their respec-tive towns and through committees, appointed for that purpose, compare their prices with those of the catalogue house, and as far as possible revise them on a basis of quality and expense of transaction; also ascertain the names of parties expense of transaction; also ascertain the names of parties purchasing from catalogue houses, and by honorable methods, persuade these people to trade with home merchants. I understand that in Scottville, Mich., this plan is successful to the extent that when one of these catalogue fiends brings his produce to town for sale, the merchant kindly suggests to him that he take it to Chicago, to the catalogue house where he trades.

2. That the secretary for the State Association obtain

2. That the secretary for the State Association obtain from National Secretary M. L. Corey a list of manufacturers and jobbers, who do not sell to catalogue houses, that this list be printed and mailed to each member of our association that by this means we may know who our friends

are.
3. I would further suggest that we abandon, as much as the old system of credit and face the fact that the only legitimate basis on which to conduct a mercantile traf-fic is the cash system, because thereby each participant receives the benefit of the minimum cost of the transaction, and that the credit system, necessarily but unjustly, compels the cash customer to pay enough to offset the loss sustained in lengthy and very often worthless accounts.

Fire Insurance.

In the matter of insurance, it is like preparing for war in time of peace, consequently few are intensely interested in the subject. If any one of us was offered from 10 cents to 25 cents on a dollar for our stock of Hardware and fixtures, we would laugh at it as ridiculous, but we are unconsciously willing to burn out on that basis, for very few of us ever

The question of insurance is mentioned here as a danger signal, in order to call your attention to a question exceedingly important, and to urge each individual member to examine his fire risk at once, and to waste no time until

conditions are on a safe basis.

Secretary Scott's Report.

The interesting report of A. J. Scott, Marine City, the efficient secretary of the association, was as follows:

During the past year the secretary's office has made a determined effort to keep closely in touch with the members through the medium of circular letters, and an unusually large volume of mail matter has been sent out from this office, as will be seen from the report of the stamps used during the past year. Communications have been sent out during the past year. Communications have been sent out whenever it appeared that we had something of interest to tell our members, but it has many times occurred to me that instead of preparing these communications it might be better for the association to issue a regular monthly bulletin in leaflet form containing the news of the association.

Moving Dead Stock.

The idea has also suggested itself to me that in this communication we might introduce a plan by which our members could find a market for commodities of which they have a supply on hand but which do not sell well in their terri-At one of our past conventions I remember having disposed to a member from Saginaw of a quantity of tinting colors which threatened to become dead stock upon our shelves. There was a good demand for these goods in Saginaw, and it was good policy for me to dispose of them at a price which made them a good purchase for the dealer in that city.

If the members think that it would be an advantage to them to have a medium through which to tell the several hundred other Hardware dealers in our association about some special deal of this kind, I trust the matter will be taken up at this convention and some action taken looking toward the adoption of this suggestion during the coming year.

Decrease in Catalogue House Sales.

You have probably all recently read of the financial statement issued by one of the largest retail mail order houses, and we can't help feeling gratified at knowing that one of our principal competitors in this line is having difficulty in keeping up with the record of sales, which, if I am not mis-taken, has shown a steady increase annually until the past year. Of course unusual conditions have maintained since last fall, but we are justified in believing that the alertness of the retail merchant and the educational work which is being carried on through this and other associations is hav-ing the much to be desired effect of keeping the trade of the farmers at home where it belongs.

Literature for the Farmers.

The advantage of having some good literature placed in the hands of the farmers, devoted to showing them the fallacy of buying merchandise by mail in the large cities. has become more apparent than ever, as there are a number of class publications appdrently devoted to the farmers' interwhose editorial utterances, naturally influenced by the advertising patronage of the mail order houses, are calculated to create a sentiment against the local merchant and to lead the farmer to believe that the retailer has no interest in him other than to charge him extortionate profits for what he requires.

Complaints During the Year.

Our records have been comparatively free from com-plaints by members since the time of our last report, five having been filed with the secretary during the current year. There are one or two of these which have not been entirely settled up, but I hope at this meeting to meet with those who have lodged the complaints and discuss with them some method of adjusting the matter satisfactorily.

Sounding Candidates for Office.

It is hardly necessary, I take it, for me to urge our members at this time to get in personal touch with their representatives and with candidates for office and find out how each stands on federal legislation in which we are interested. one of us will wield considerable influence if we will only take the time to present our views in person.

Mutual Insurance Companies a Credit to Bardwaremen.

While we will hear from the representatives of the different strong Hardware dealers' mutual fire insurance companies at this convention, I wish to emphasize the fact that these companies have been the means of saving our members a large amount of money in the past and will continue to do so in the future. I consider it a great credit to the Hardware merchants of the country that they should have succeeded in building up such strong mutual companies for their own protection. In addition to saving policyholders a good own protection. In addition to saving policyholders a good round sum each year, the mutual companies have made an enviable reputation in the manner in which they have settled up their fire losses.

Membership.

In the matter of membership, the past year has been a peculiar one on account of the exceedingly large number of changes that have occurred. In the Hardware business, as in most other lines, a great many firms entered business during the past few years with very limited capital. The stringent financial conditions for some months past have compelled a great many of these to take up some other line, and the effect upon our membership is shown in the following statement: The secretary's report last year showed a mem-bership of 679. Of these 17 have resigned, 59 have gone out of business and 30 have been dropped for nonpayment of dues, the majority of whom I believe are also out of business, as I failed to receive any replies from them. This makes 106 of the names reported last year who are not on our list to-day, leaving a balance of 573. During the year we have taken in 100 new members, making a total membership at present of 673.

Treasurer's Report.

The report made by William Moore, Detroit, treasurer of the association, showed that the total receipts during the year had been \$6560.63, and the disbursements \$3302.21, leaving a handsome balance amounting to \$3258.42.

Hardware Advertising.

Marshall H. Mackey, South Haven, Mich., read an interesting paper, in which he discussed the question "Does It Pay to 'Advertise?" Mr. Mackey spoke, in part, as

One "Ad" writer defines advertising as "the act of creating a want and turning the consequent demand toward your supply." This definition seems to cover a multitude of sins for "advertising after all is only a gamble, a conundrum and an uncertain quantity," but on the other hand it is also a science which is governed by certain laws and be reduced to basic principles capable of definite calculation.

The first step in reducing advertising to a science is to analyze the goods from every standpoint. When you have studied all the strong points of the goods you can easily decide whether or not they are advertisable. I am not now talking to inventors or manufacturers, however. The retailer can decide offhand that his goods are advertisable. He handled dles many commodities which have been advertised successfully by the makers.

Difficulty Not a Real One.

One of the greatest stumbling blocks for many would-be advertisers is expressed as follows: "I can't advertise, I don't know how." Merchants who say this think the matter very difficult. They bring up a lot of imaginary troubles. Really advertising shouldn't be such a bugbear to a man who can write, talk and think. The trouble lies a great deal in the fort that many advertisers true to make great years. in the fact that many advertisers try to make every piece of their copy a "stunt," and therefore when results are not forthcoming they are discouraged and give up.

Getting Results.

Simple ads of common sense bring forth better results Simple ads of common sense bring forth better results and rarely ever do we find the successful advertiser varying from this plan. Try and take the consumer's point of view, if possible, and imagine the effect it will have in his mind—and pocketbook. If your consumer is a woman, secure ideas from your wife, sister or daughter and see what especially appeals to them. A piece of copy dictated by an intelligent woman is often worth more than that of an expert "ad" writer. writer.

If you neglect analyzing your goods correctly you cannot blame the science of advertising on account of your failure to sell the goods. You are not compelled to trust to luck in advertising to any great degree. You may not reap the results of your advertising this year, but results will surely come next year or the next. No advertising is wasted if the advertiser builds his campaign on knowable certainties. The only real uncertainty in advertising is economic conditions of the country. People may be too hard up to buy but when the stringency is over you can rest assured that the demand will be turned toward your supply.

New Goods.

A dealer's stock may be complete and his prices right, but still whenever he gets in new and desirable articles it is up to him to let the public know about them if he expects to sell the article. He may have a new safety razor or an improved sad iron, but if he wants the article to move he will have to advertise or his competitor who handles another line may get the people headed his way and do the busines

The Show Window.

The window display connected with a newspaper "ad" makes a most effective mode of advertising new goods. windows are one of your best paying advertising mediums, for though they may not bring immediate results you will have people coming in the store months after the display has been taken out and asking for an article that you had displayed sometime before.

Money Wasted.

I feel that thousands of dollars are thrown away each year by the merchant on musical, church, literary and society programs as well as the telephone and business directory, and the special writeup editions of papers, but as much of this kind of advertising is taken and paid for as a charitable act on a repended duty results are not always. much of this kind of advertising is taken and paid for as a charitable act or a personal duty, results are not always expected. However, losses in this kind of advertising often tend to turn the merchant to the legitimate channels which will produce results. Advertising solicitors, with all kinds of schemes, invade your office, but unless they can show you something new that will obtain results you are wasting time and money listening to them.

A Store Bulletin.

Personally, I believe that catalogue and newspaper advertising are the best. The firm of which I am a member has tried and are now doing both. We issue an $8\times11\text{-}12$ page catalogue twice a year, one as a spring and summer number and the other as a fall and winter edition.

We claim one thousand circulation for the Bulletin, as we have named it, half the copies being mailed to a selected list of farmers, while the balance are distributed in the city Ilst of farmers, while the balance are distributed in the city. The cost of printing averages about \$25 for the thous.nd, while the postage is one cent each. We make up our own composition and are helped greatly in this by the many cuts furnished us by the manufacturers and the good ideas secured from the leading trade journals.

We believe that newspaper advertising well repays the advertisity of the control of the contro

advertiser. The public now reads more newspapers than ever before. There is scarcly a man who does not purchase several papers daily. He cannot overlook the advertisements. These attract his eye becouse of the handsome typographical make up and he is led to buy goods of the merchant whose name appears in the advertisement, believing him progres-

Nice Calendars Pay.

Another mode of advertising that I believe pays is the ender. Not the cheap kind like the general run, but a calenlendar. endar which people will keep. We issue one each year and have many customers who look for it as regularly as the year rolls around. Many have tried this mode of advertising and condemn it, but you will find that it is because they failed to put out a calendar which people will hang in their home or office on account of its attractiveness. Invest in Invest in good calendars and your advertising money will have been well spent.

Give your advertising as much consideration as you do the hiring of your help. If you have tried advertising and seemingly failed find out the cause, for ninety out of every hundred will tell you that it pays and your failure can be turned to success by finding the fault and applying the rem-

Brief Suggestions.

If you choose the newspaper as one of your modes of advertising make the "ads" breezy and don't try to make a "hit" every time you write your copy. Change the copy often for people rarely ever read an ad more than once.

If you wish to get out a catalogue of your own, combine your ideas with those who have given the matter a trial.

If you wish to use the billboard, see that your adver-

tising sheet is large and that you get prominent space.

If you wish to use fence signs, tack them up out of reach so that they cannot be torn down by passersby, and put them up as thickly as possible so that the number will be noticeable.

No progressive merchant should waste any time in con-No progressive merchant should waste any time in considering whether he shall advertise. That question has been retired from the field of controversy. What he wants to know is how he shall advertise. That point is deserving of careful consideration. Important results depend upon his answer to that question. He may gain the knowledge he requires by close study and careful experimenting or he may call expert assistance to his aid.

Getting Profits.

An able paper, entitled "Getting Profits," was read by Geo. W. Hubbard, Flint, a former president of the association. Mr. Hubbard's paper was listened to with close attention, containing, as it did, many good suggestions as to business conduct. The publication of the paper is deferred until a later issue.

Increasing Profits and Curtailing Competition.

A very practical paper under the title of "Specialization in the Hardware Business" was read by Harvey J Fueller, secretary and sales manager of the Abram Cox Stove Company, Philadelphia. It dealt with some methods and policies which might be adopted with advantage by the Hardwareman, and was in part as follows:

My early business training was acquired on the road in stern school of practical

salesmanship. Though my direct business experience experience has been confined as a manufacturer to the stove, range and furnace department of the Hardware trade, yet I have spent no inconsiderable part of my life in retail Hardware stores and in contact with Hardware merchants. My somewhat ex-tensive observation of the conditions which generally prevail in your business is my excuse for venturing to direct your attention to cer-tain views which I entertain regarding methods and poli-cies that I believe could be adopted by retail Hardware merchants for increasing their profits and curtailing the evils of unwise competition.



HARVEY J. FUELLER.

It is plain that in order to make money you must sell your goods at an increase over the amount you pay for them, plus your cost or expense of conducting business. But do not jump to the conclusion that the higher your selling prices are the greater your profits will be. Unduly high selling prices are ultimately as destructive of profit as unduly low selling prices.

Profits Should Be Computed Upon Money Invested in the Business.

One of the most difficult tasks which confronts the Hardware merchants is that of fixing proper selling prices on the different classes of goods which he handles. On certain goods it seems to him that he must ignore his general percentage of expense in fixing the selling price or be outside of the market entirely. In my opinion it is an error for a merchant to compute his profits on the volume of his sales. They should be computed upon the investment in the business. The retail fruit dealer, who on the average turns his entire capital weekly, will make a far greater profit by selling his goods for 10 per cent, more than he pays for them

The retail fruit dealer, who on the average turns his entire capital weekly, will make a far greater profit by selling his goods for 10 per cent, more than he pays for them than the jeweler, who turns his capital on the average once each year, will make by selling his goods at an advance of 100 per cent, over his purchase price.

Say that in a given Hardware business the merchant finds that his total expenses, including interest on his capital,

Say that in a given Hardware business the merchant finds that his total expenses, including interest on his capital, his own salary and those of other executives, rent, insurance, wages, office force, shipping, taxes, light, heat, advertising, bad accounts and all other costs of conducting business, amount to 20 per cent. of the purchase price of all goods which he has sold during the year; yet it is apparent that it has cost him less than 20 per cent. to sell some of the quick moving, cheaply handled goods, and it has cost him much more than 20 per cent. to sell some of the other goods which he must carry a long time and on which his selling expenses are heavier.

Six Profits Versus One Profit.

Some merchants consider that the only difference to them in profit between a class of goods on which they turn their capital every 60 days and another class on which they can turn their capital annually is 10 months' interest at the current rate, but this is a great mistake, as in one case they make six profits in one year on a given investment, and in the other case they make but one profit in one year on a given investment.

Of course the carrying of book accounts is an element in the turning of capital which must always be taken into account, and if the Hardware merchants generally realized the great importance of prompt collections as a factor for producing profit they would devote more attention to this feature of the business.

Classification and Division of Goods.

The Hardware merchant, to enable him to understand what he is doing, to know what classes of goods it will pay him to push to maintain a price scheme which will bring the best results, should analyze his business thoroughly and should classify the goods which he handles into divisions. showing separately in groups those in which he turns his capital, respectively, in 60 days, in 4 months, in 6 months, in 8 months, in 10 months, in 1 year, in 18 months, in 2 years, &c.

An additional account should be opened for each specialty to which the merchant devotes particular attention and on which he aims to secure more than the ordinary rate of profit, and, of course, such specialties should not be grouped with other goods.

Such specialties might be Ranges, Heating Stoves, different branches of the Cutlery business, Paints, Wall Paper, a line of high grade Wooden Ware, and in season Firearms and Ammunition.

Expense Percentage for Each Class.

He can then, using his own good judgment and justly estimating other factors known to him, apportion to each class the percentage of expenses which it should rightly bear.

In apportioning this expense the merchant should be very

In apportioning this expense the merchant should be very certain to have the total apportionment equal his entire expense as based upon his previous year's experience. After adding the proper percentage for expenses to each article or kind of merchandise, he will have the real cost thereof.

He can then open an account with each separate group of

He can then open an account with each separate group of merchandise, charging it with all of its costs and crediting it with its sales. He will then know at the close of the year just where each class of goods stands as a profit earner. There is no mistake more common than the failure to include the full expense of doing business in calculating costs and selling prices.

Unless conditions are radically changed, there are some classes of goods which it is practically obligatory for retail Hardware merchants to handle on which it will never be possible for them to make a reasonable profit. As an offset to this unprofitable business they should develop a trade on specialties upon which they can secure a profit above the ordinary rate.

Good Profits Secured Through Specialties.

There are many specialties in different lines of manufacture which the shrewd Hardware merchant can push and

advertise and promote until he has a valuable franchise in the continuous profit accruing to him from their sale. In many cases he can control the sale of special goods of certain kinds, and then can very profitably work up a reputation for them which will permeate the entire community

for them which will permeate the entire community.

For example, most Hardware merchants handle ranges, and the profit thereon, considering the cost of selling and handling them, is usually very moderate. Many Hardware merchants try to increase their profits in the range business by scouring the market for the lowest price ranges they can find, thinking thus to be able to undersell their competitors and build up a large business. But what they can do in purchasing cheap and nasty ranges can be duplicated by their competitors, and they can never build up a good reputation nor establish a profitable trade by handling such goods.

On the other hand, it has been frequently demonstrated that if the merchant will select a strictly first-class, high grade range, with special features of merit, and push it as a specialty, he can build up a permanent profitable trade on it which cannot be taken away from him by means of any price concessions which his competitors may make on other ranges.

And what can be done on ranges can be done on many other specialties on which it is possible for the skillful Hardware merchant to develop and maintain a profitable and practically an exclusive business.

and practically an exclusive business.

Along this line of developing a trade on specialties lies the greatest of opportunities for the Hardware merchant to increase his profits. Too frequently the Hardware merchants of a town follow each other along the same path of business policy, like a flock of sheep. If each would specialize his business to the greatest possible extent and seek to develop his trade along the lines of profit for himself, the evils of competition would be greatly reduced.

An Example of Specialization.

As most Hardware merchants are engaged in the heating business, I desire to direct attention to warm air furnace heating and ventilation as a most striking example of specialization, through which, if properly conducted, they could build up a profitable and highly satisfactory trade.

Cheap competitive bidding has performed its sinister work in the furnace business, until furnaces of utterly inadequate capacity are merely thrown into cellars or basements and installed without regard for the proper proportioning of the piping system or for any other elements necessary to right results. As a result of these poor methods of installation and of the use of furnaces of too small capacity, warm air furnace heating to-day is seldom given the slightest consideration for first-class or even medium priced residences. Yet with a good furnace of the proper size, with the piping correctly proportioned and with first-class installation in other respects, there is no other plan of heating so practical, so successful or so satisfactory as warm air furnace heating.

This is an age of sanitation, and from the standpoint of healthfulness warm air furnace heating is immeasurably superior to direct water or steam heating. When furnace heating was discredited by the evil demon of "cheapness," which meant deficient capacity and defective workmanship, the people who built good houses turned eagerly to steam and water, believing that these were sure and sound methods of heating. And thus the heating of good residences was taken away from the furnace merchant by a system that cost much more than good furnace heating.

away from the furnace merchant by a system more than good furnace heating.

This proves that it was really the low price of furnace heating, necessarily accompanied by inferior quality, that drove it from the market to such a marked extent. And that this better method of heating would never have been supplanted if a high standard of installation had been maintained. Furnace heating has been discredited because the average furnace dealer mistakenly supposes that he can get work only on the low price of the job. And even those few furnace dealers who pride themselves on getting what they call good prices go only half way and do not attempt to do strictly first-class highest grade work, through which alone can furnace heating be brought into the favor and standing to which its merits entitle it.

If the members of this organization, regardless of how expert they believe themselves to be, would make a study of the furnace business and would start a determined and systematic crusade in favor of strictly first-class warm air furnace heating, a very large proportion of all first-class residences could unquestionably be captured for this superior method. And while you would be giving your customers far better value for their money than they could possibly receive with any other system of heating, you could legitimately make much larger profits for yourselves than it would be possible to make by installing any other method of heating. For strictly first-class warm air furnace heating and ventilating there is no reason why the house owner should not pay at least as much as the price of the inferior and unsanitary direct steam or water system. The field is not liable soon to be overcrowded, and those who start in to do strictly first-class heating and ventilation are not likely to have much serious competition, for only those who have the insight and the foresight to get out of the beaten path of custom will enter this rich field, and they are not likely to

be large enough in number to crop off the pasturage for a long time to come.

How Spare Cash May Be Invested to Advantage.

Other directions in which specialization can be successfully practiced will readily occur to the alert Hardware merchant who catches the spirit of the scheme and appreciates its advantages and possibilities. I desire to emphasize the fact that there are, for every Hardware merchant, possibilities for increasing his profits by realizing the difference in relative importance between the different classes and departments of his business, and that the time spent in planning for the specialization of his business will be profitably employed. Many a merchant who has a surplus of cash sallies forth to find an investment, and not infrequently tests the stock market because of seemingly seductive prospects of profit that seem to lie in that field, whereas by investing the money to develop some special line or department of his own business he could probably make much better returns for himself than others are likely to make for him.

Training Clerks.

The employees of a house usually reflect the tone and character of the establishment. Indifferent and slipshod clerks and salesmen usually betoken indifferent and inefficient business methods on the part of their employers. Many Hardware merchants could promote their own interests by devoting more time and pains to training and drilling their employees and studying plans for increasing their profits, and spending less time in doing work and attending to details which could be taken care of quite as well by subordinates.

Local Organization Benefits,

While you can do much to increase your prosperity by your own efforts in wisely planning your business methods and policies, you can also greatly improve the conditions which constitute your business environment by means of cooperation through your association. While your organization can never bring about that millennium of the socialist where competition will be abolished, yet it can, through wise agreement and co-operation, remove the abuses and evils of that jealous and reckless struggle for trade which is frequently destructive of all legitimate profit.

You could not use your local organization, even if you so desired, to maintain prices at an exorbitant level, for the operation of the natural laws of trade would quickly break

your scheme. But if your understandings and agreements are formed on the basis of securing fair, reasonable, just conditions for yourselves they can be maintained if you are true to each other. Public sentiment and the laws of business will sustain you in any rightly directed efforts you may make to secure reasonable returns on your capital. If each of you will do his part your organization can make business conditions much pleasanter and more satisfactory for all of you than they would be without the organization. In addition to the larger reforms which you can accomplish through your association, it can be made the means of eliminating the little pin pricks and minor annoyances of competition which so often exist when those engaged in a common business in the same community regard each other as strangers and enemies. The mere social contact between the members which is brought about by the existence of your association is not among the least of the good features of your organization.

Ouestion Box.

The contents of the Question Box afforded a good deal of discussion at several sessions. Among the questions thus brought to the attention of the gathering were the following:

How can we meet catalogue house prices?

This question aroused a good deal of interest and was freely discussed. One member reciting an incident from his own experience said that a woman came into the store and asked for a washing machine, the price of which was \$5. She declared that she could buy the same machine from a Chicago catalogue house for \$4. The merchant in response said: "Certainly, madam, I have a similar washer in the attic of my store which I could sell for \$4." "Let me see it," replied the woman. "No," said the merchant; "I will sell the washer in the same way the catalogue houses sell their goods. You pay me cash for the washer and in a day or two I will deliver it to you." Mr. Harshaw said that his policy was to sell at the same price as the catalogue house, the customer paying the cost of delivery and other expenses. Presilent Alden said that prices in such cases should be determined by three conditions: First, quality of the

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goods; second, expense of transportation, and, third, whether the transaction was of a cash or credit character. Mr. Wattles said he bought a wagon sold by a catalogue house and advertised it for sale at \$5 less than it cost him. Notwithstanding the price at which it was offered he had it on his hands a long time and in the meantime sold a good many wagons from his regular stock.

Can rural free delivery carriers deliver mailable packages weighing less than 4 lb?

The discussion that followed the presentation of the question indicated a wide difference of opinion as to the law upon this subject. At the same time it was pretty generally accepted as a fact that such packages could not be legally accepted for delivery by the rural route.

How can we best meet the competition of racket stores?

Speaking from experience in handling such competition one merchant declared the best way was to establish 5 and 10 cent counters in the store and keep on them in plain sight such goods as were commonly sold in racket stores. The trouble seemed to be that people do not think to ask for such small articles when in a hardware store, but pick them up when they see them displayed upon the counter.

Why not sell hardware on a strictly cash basis?

Some pertinent experiences were recited which upon the whole tended to show that a more determined effort to do a strictly cash business would in most cases result in at least lessening if not wholly eliminating the loss of money through unwise credits. J. B. Sperry, Port Huron, said that after 17 months' trial of the cash method of doing business he was handling more trade on a cash basis than he formerly did on credit—and he didn't mean eash in thirty days, but with the order. Mr. Stadt, Grand Rapids, also said that he was doing a strictly cash business and was very well satisfied with the change. About two weeks before he inaugurated this method of carrying on business he sent out something like 500 letters to his customers, in which he boldly announced his intention. He said it sometimes required nerve to turn down an old customer who asked for credit, but by insisting on it the money was generally obtained.

Closely related to this topic and equally important was that of the effectiveness of some of the various collective methods and agencies offered to the trade. It is apparent that quite a number of the local associations have satisfactory organizations of this kind and many instances of their usefulness were recited in course of the discussion.

Have any members had experience with steel range peddlers, and, if so, how have they handled this form of competition?

National President Stebbins suggested that the most effective thing to do was for the local merchants in the territory visited to get out advertising and spread it broadcast over the country covered by the peddlers. Stebbins said that the merchants in his territory had had only one experience with peddlers and by aggressive advertising and canvassing they were able to drive them out before they had inflicted any material mischief.

Is it wise to sell nails by the pound at a big profit?

In reply to this question quite a number of the members signified that they were getting from 3 to 31/2 and 4 cents per pound for nails.

Does the stove business pay the Hardwareman?

The consensus of opinion was that the Hardwareman should handle stoves, and that they should be of good quality.

Does it pay to run specials for certain days at a low

One of the members said that he had tried out specials and found them a success.

Resolutions Adopted.

Among the resolutions adopted were the following:

Whereas, It has come to our knowledge that a renewed effort will be made at the next session of Congress to pass a parcel post bill, and

Whereas, It being the honest opinion and belief of our best writers and thinkers that such a measure would be detrimental to the best interests of the country, in that it would tend to build up the already congested centers and thus depopulate the smaller cities and rural communities; now, therefore, be it Resolved, That the Michigan Retail Hardware Association is

ever and always opposed to the enactment of such a measure. believing it to be class legislation in the interest of the few against the many; and be it further

Resolved, That our members of Congress be requested to use their best efforts to defeat any such proposition.

Whereas, The lecture of Geo. W. Maxwell of Chicago, editor the Talianum Gasse meat shie appeal for the Patienum Gasse meat shie ap

of the Talisman, was a most able appeal for the betterment and uplifting of the race, be it

Resolved, That we pledge ourselves, individually and as an ociation to co-operate with him in the important educational work he is doing

Resolutions of thanks were extended to the manufacturers and jobbers of Detroit for courtesies received at their hands, and to the trade journals for their able support given to the association during the past year. Resolutions of sympathy for families of deceased members, including W. T. Leckie, Dowagiac; T. B. Rayl, Detroit; George A. Earle, Mason; W. B. Rorick, Morenci, and W. D. Edwards, Kalamazoo, were also adopted.

Election of Officers.

The election of officers resulted in the choice of the following:

PRESIDENT, Porter A. Wright, Holly. VICE-PRESIDENT, Chas. A. Ireland, Ionia.

SECRETARY, Arthur J. Scott, Marine City.
TREASURER, Wm. Moore, Detroit.
EXECUTIVE COMMITTEE (two years): C. M. Alden, Grand Rapids; Henry C. Webel, Detroit; F. M. Brockett, Battle Creek; Alex, Lempkie, Detroit. One year, to fill vacancy: Arthur Schoolsky. eneberg, Saginaw.

Next Meeting Place.

A letter from the Saginaw Board of Trade to hold its next meeting in that city was read, and a letter of similar nature was received from the Hotel Victor, Put-In Bay. It has been in the minds of some of the members for a number of years that it would be an ideal plan to hold the convention on board a steamer making a three days' round trip from Detroit westward to Mackinaw or some other suitable point that might be chosen. The advisability of undertaking such a programme for next year was freely discussed at this time, but it seemed to be the consensus of opinion that while it would be highly desirable to effect such an arrangement, it had better be deferred until a subsequent year, when the whole proposition could be investigated and brought before the meeting in definite form. A motion offered to accept the invitation of Saginaw was carried unanimously.

Convention Notes.

A large and enthusiastic audience greeted Geo. H. Maxwell, Chicago, editor of The Talisman, at the Detroit Opera House, Wednesday evening, whose address on "The Future of Our Nation," illustrated by stereopticon views, was one of the most instructive and entertaining features of the convention.

Henry A. Pickert read a paper in which he endeavored to reflect the views of the great body of traveling salesmen respecting the influence of the Hardware associations upon their welfare and interests. He was strongly of the opinion that the educational advantages offered by the association had made its members broader minded and more capable merchants than they were before.

Handsome suit cases were presented to F. E. Woolley and R. C. Wessels, as prizes offered by the association for the securing of the greatest number of members. An elegant umbrella was also presented to Mrs. Daisy Adams, who favored the convention with a number of cornet solos and led the singing of America and other songs.

Telegrams of greeting were received from Charles W. Asbury, president of the American Hardware Manufacturers' Association; E. C. Simmons, Simmons Hardware Company, St. Louis, and Frank A. Bare, secretary of the Ohio Hardware Association.

EXHIBITS.

ACME WHITE LEAD & COLOR WORKS, Detroit: Paints, Enamels, Stains and Varnishes. Represented by Dan Davies, H. F. Whitaker, L. J. Fasquelle, W. J. Reinecke, A. D. Hoag and G. C. Burnham, Jr.

AMERICAN STEEL & WIRE COMPANY, Chicago: Wire Fence. Represented by W. H. Crawford, T. G. Fletcher and L. N. Sil-

AMERICAN WRINGER COMPANY, New York City: "Chemical" Clothes Wringers. Represented by N. B. Hutton.

ART STOVE COMPANY, Detroit: Stoves and Ranges. Represented by E. J. Wagner.

E. C. Atkins & Company, Indianapolis, Ind.: Saws. Represented by W. E. Stainaker and Robert Eceland.

BALDWIN STOVE COMPANY, Cleveland, Ohio: Ranges. Represented by H. E. Watkins.

BANY & HADLEY MFG. COMPANY, Delphos, Ohio: Power Washing Machines. Represented by Guy A. Johnston.

BERRY BROTHERS, Ltd., Detroit: Baking Enamels, Dryers, Shellacs, Asphaltum, Paint and Varnish Removers and Varnishes. Represented by Frank A. McCall, T. D. Baker and P. B. Weeks.

Shellacs, Asphaltum, Paint and Varnish Removers and Varnishes. Represented by Frank A. McCall, T. D. Baker and P. B. Weeks.

BILLINGS-CHAPIN COMPANY, Cleveland: Paints and Varnishes. Represented by W. W. Rankin and M. Sherwood.

BOSTWICK-BRAUN COMPANY, Toledo, Ohlo: Wholesale Hardware. Represented by H. W. Aulsbro, W. J. Breay, W. S. Beebe, H. D. Ranney, S. W. Johnson, C. P. Louch, C. W. Brown and M. H. Nusbaum.

BOYDELL BROTHERS WHITE LEAD & COLOR COMPANY, Detroit: Paints. Represented by J. Frank Boydell; Wm. Rennie, E. Stilling, W. H. Addison, Joseph Meyers and Andrew Bindmarsh. E. S. Brace Company, Niagara Falls, N. Y.: Extension Sweep Brace. Represented by G. M. D. Heard.

BROWN STAMPING COMPANY, Toledo, Ohio: Oil Cans. Represented by A. L. Baker and H. W. Buiton.

Buhl Sons Company, Detroit: Wholesale Hardware. Represented by W. E. Buhl, A. H. Buhl, H. W. Horton, J. M. Thurber, C. V. Hetts, H. P. Smith, W. J. Laffrey, J. F. Putnam, C. H. Bryant, A. H. Lee, A. H. Nichols and C. M. Moulton.

CANTON ART METAL COMPANY, Canton, Ohio: Steel Ceilings and Furniture. Represented by W. W. Clark, W. H. Gardner and C. S. Watters,

CARBORUNDUM COMPANY, Niagara Falls, N. Y.: Abrasive Materials. Represented by George N. Allen, F. D. Griddey and C. G. Emery.

CONSTANTINE NOVELTY COMPANY, Ltd., Constantine, Mich.: Churns. Represented by J. H. Putnam.

CONWAY STEEL RANGE COMPANY, Bellevue, Ohio: Stoves and Ranges. Represented by F. F. Saxton and R. H. Reed.

DANGLER STOVE COMPANY Horision American Stove Company, Cleveland, Ohio: Vapor Stoves. Represented by W. J. Best.

Co-operative Foundry Company, Rochester, N. Y.: Stoves and Ranges. Represented by F. F. Saxton and R. H. Reed. Dangler Stove Company Division American Stove Company, Cleveland, Ohio: Vapor Stoves. Represented by W. J. Best.

Detroit White Lead Works, Detroit: Paints, Enamel, &c. Represented by J. G. Riley and H. P. Barringer.

E. I. Du Pont de Nemours Powder Company, Wilmington, Del.: Powder. Represented by C. A. Newton, W. J. McHenry and W. T. Stannard.

Empire Rubber Mrg. Company, Chicago: Mechanical Rubber Goods. Represented by E. B. McKay and H. H. Todd.

Free Sewing Machine Company, Chicago: The Free Sewing Machines. Represented by C. B. St. Clair.

Heath & Milligan Mrg. Company, Chicago: Paints and Colors. Represented by A. D. Grain and J. B. Campbell.

Independent Stove Company, Detroit: Renown Stoves and Ranges. Represented by R. G. Waddell and F. E. Wirlley.

Lowe Brothers Company, Dayton, Ohio: Paints and Varnishes. Represented by F. O. Downer, E. K. Springer and Fred W. Schroeder.

McIntosh Hardware Corporation, Cleveland, Ohio: Wholesale Hardware. Represented by J. S. Harris, Geo. Abbott, Geo. Edelman, C. E. Barton and C. E. Clark.

Malleable Steel Range Mrg. Company, South Bend, Ind.: Stoves and Ranges. Represented by H. A. Todd.

Marcelona Screen Company, Marcelona, Mich.: Screen Doors and Window Screens. Represented by A. M. Gifford.

Marvel Mrg. Company, Ionia, Mich.: Washing Machines. Represented by G. R. Herron.

Manson-Campbell Company, Detroit: Fireless Cook Stoves. Represented by G. B. Gunn.

Nicara Machine Company, Niagara Falls, N. Y.: Represented by G. M. D. Heard.

Omaha Lightning Rods. Represented by T. B. Adams.

One Minute Washer Company, Pittsburgh: Poultry and Garden Fence. Represented by T. B. Adams.

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One Minute Washer Company, Pittsburgh: Poultry and Garden Fence. Represented by M. A. Toder, Rep

Baldwin.

Jamps B. Sipe & Company, Pittsburgh, Pa.: Sipe's Japan Olls. Represented by S. H. Hart.

Standard Paint Company, New York City: Paints. Represented by Ben H. Weeks.

Standart-Simmons Hardware Company, Toledo, Ohio: Wholesale Hardware. Represented by C. B. Bennett, F. M. Moulton, E. C. Weeber, A. L. Peck, A. G. Weeber and F. R. Russell.

Russell.

Sun Typewriter Company, New York City: Typewriting Machines. Represented by W. A. Mudge.

Union Metallic Cartridge Company, Bridgeport, Conn.; Ammunition. Represented by W. F. Evans and John T. Cole, Jr. United States Registers Company, Ltd., Battle Creek, Mich.: Jones Registers. Represented by A. O. Jones.

Vermont Farm Machine Company, Bellows Falls, Vt.: Cream Separators. Represented by John Lacht.

Winchester Repeating Arms Company, New Haven, Conn.; Fire Arms. Represented by J. E. French.

Yost Gearless Motor Company, Springfield, Obio: Washing Machines. Represented by George L. Miller.

Rockford & Lunt have opened an Implement, Vehicle and supply store at Arkansas City, Kan.

Price-Lists, Circulars, Etc.

Manufacturers in Hardware and related lines are requested to send us copies of catalogues, price-lists, &c., for our Catalogue Department in New York; and at the same time to call attention to any new goods or additions to their lines, of which appropriate mention will be made, besides the brief reference to the catalogue or price-list in this column.

FORSYTH MFG. COMPANY, Buffalo, N. Y.: Catalogue C, illustrating and listing a line of solid brass bathroom accessories and Lenox bathroom outfits.

NATIONAL SCALE COMPANY, Beaver Falls, Pa.: Illustrated circulars, &c., referring to computing Scales and Counting Machines, with booklet giving the names of many users of the company's machines.

LORD & BURNHAM COMPANY, Irvington, N. Y.: Hand book of greenhouse construction, covering all materials necessary to erect and equip a greenhouse, which are classified, grouped and indexed for ready reference.

COBURN TROLLEY TRACK MFG. COMPANY, Holyoke, Mass.: Illustrated catalogue No. 35, referring to overhead tramrail traveling Cranes, Electric Carriers and appliances, Door Hangers, Fire Doors and Shutters, Fire Escapes, rolling store Ladders, &c.

H. B. IVES MFG. COMPANY, New Haven, Conn.: 1908 illustrated catalogue No. 13, with accompanying price book No. 1, referring to an extensive line of Builders' Hardware specialties, including Sash Locks, Crescent Sash Fasteners, Window Stop Adjusters, Mortise Door Bolts, &c. Among the new goods noted are Sash Fasts and Lifts, Transom Catches and automatic gravity Locks made in malleable iron for metal sash.

REPUBLIC STAMPING & ENAMELING COMPANY, Canton, Ohio: Illustrated catalogue attractively bound and printed in two colors, describing and listing Old English Grav Enameled Ware.

MARLIN FIREARMS COMPANY, New Haven, Conn.: Illustrated catalogue of Firearms, Ammunition, parts &c.

W. R. OSTBANDER & Co., 22 Dey street, New York: Large illustrated catalogue, containing about 700 pages, with accompanying trade discount sheet, referring to Speaking Tube Hardware, electrical supplies, Telephone and Telegraph Instruments, &c.

Requests for Catalogues, Etc.

The trade is given an opportunity in this column to request from manufacturers price-lists, catalogues, quotations, &c., relating to general lines of goods.

REQUESTS for catalogues, price-lists, quotations, &c., have been received from the following houses, with whom manufacturers may desire to communicate:

FROM SWARTZ THE STOVE MAN, 833 Race street, Philadelphia, Pa., incorporated with a capital of \$5000, and haudling Stoves, plumbing and steam, hot air and hot water heating.

FROM RIDGEWAY & STRAWN, Pittsburgh, Kan., who have bought the Hardware, Tinware, and Sporting Goods business of Miller Bros.

FROM THE TINKLING HARDWARE COMPANY, Kenbridge, Va., which has been incorporated with a capital of \$10,-000 to \$25,000.

From Burkey Bros., Alma, Neb., who have purchased the Hardware. Stove, Tinware, and Sporting Goods business of H. T. Moore.

FROM J. B. FELTUS, who has returned from California to Oelwein. Iowa, and has again engaged in business there with his son, under the title of Feltus Hardware Company, buying out the firm of Campbell & King.

J. F. Joss has disposed of his Hardware, Stove, Agricultural Implement, Sporting Goods and Furniture business in Fairview, Kan., to W. H. Meyer, who will continue at the old stand.

Can the Stove Trade Be Rejuvenated?

A DISCUSSION is going on in the columns of The Metal Worker, Plumber and Steam Fitter as to plans by which the marketing of Stoves through Hardware and Stove merchants may be increased. During recent years the trade in this line has drifted more and more away from the merchant and into the hands of the catalogue and mail order houses, department stores and furniture dealers. In response to the invitation of our contemporary, Robert L. Morley, manager of the Chicago branch of the Michigan Stove Company, Detroit, presents the following diagnosis of the situation, which will be read with interest by Hardwaremen:

"What is the matter with the Stove business?" would better be considered by changing the form and substance of the question to, What is the matter with the retail Stove merchant? for herein is the essence of the inquiry. The blame for present conditions unfortunately must, to a large extent, be laid upon the shoulders of the merchants. They are indifferent to the Stove branch of their business, claim it does not pay, that it takes up too much of their time and attention to sell the goods, requires too much room that they can use to better advantage, and demands too much investment of capital.

They have, therefore, slighted the business, and the growing interest in it of furniture and department stores has widened the breach, and the climax to the whole subject has been reached by mail order and catalogue houses until the retail merchants generally are utterly demoralized, and in no part of their business is this felt to a larger extent than in the Stove department.

The Stove Business Repays Intelligent Enterprise.

That the fundamental objection to the business—that it does not pay—has or should have no foundation in fact, is clearly demonstrated by the prices obtained by the principal competitor of the Stove merchants, the furniture houses, which make prices on their Stoves not dreamed of by the Stove man.

The different business methods in some measure account for this, as the long-time payment plan appeals to those who do not have the ready money, yet there are plenty of Stove buyers that do, and the saving of 10 to 25 per cent. through the Stove man would be just as attractive to them as the easy payment plan to the others, and the Stove merchants would get the business if they cared to, as a very large proportion of them still do.

The other objections are largely the outcome of unsatisfactory profit, but this can be avoided by placing the business on a paying basis of prices and maintaining them. Better few sales with good living profit than many at a loss.

But competition regulates prices and profits! The bugaboo of competition may, when we let our fears control our actions. Let the competitor sell at unprofitable prices if he desires, the sooner he will cease to be a competitor, but "as for me and my house we will serve" the god of profit with its attending benefits. The profits of the business do not come from a campaign of low prices on low quality goods, as active competition on these lines continually lowers the grade and price until there is no bottom to the downward movement. Quality goods only at living profit must be relied on for permanent success.

The Merchant Must Co-operate.

The evolution of the Stove business has gone too far to retrace its steps. It is bound to go still farther. What is to stop it, concerted action on the part of manufacturers? They cannot force the retail merchants against their will, nor even secure their full co-operation when sought. All right thinking manufacturers and jobbers would much prefer to distribute their goods through what might be termed the legitimate sources of the business, the retail Stove and Hardware merchants, but none of them can stand idly by and see the Stove business drift away to so large an extent from the Stove dealers without making an effort to secure some of the business.

The company with which I am connected, until comparatively recent years sought the co-operation of the Stove merchants to the exclusion of all furniture houses selling Stoves until it was forced to abandon this position because it could not afford to resign so large a percentage of the business to its competitors without an effort to secure its share.

The conditions are immeasurably worse in this respect to-day than they were 10 or 12 years ago. The manufacturer must have an output for his productions, and must grasp the opportunities presented by the rapidly changing business conditions. The business policy of to-day may not meet the conditions of to-morrow, hence the progressive producer has to march forward with the conditions or be relegated to the rear.

The Survival of the Fittest,

My opinion, based on a close experience with the environments of the Stove business, is that the opportunity has passed from the retail Stove man and that he cannot recover it. Certainly nothing short of a revolution in the methods and interests of and by the retail Stove merchants can produce material changes in the marketing of Stoves as a whole.

The volume of output through other sources has become so great that no manufacturer can ignore it without material loss in sales and profits.

In its evolution, the Stove business presents no different features from other lines of business. It is a case of the "survival of the fittest," and those merchants who have come through the transforming processes have demonstrated their fitness for a higher sphere of merchandising, have recognized the changing conditions, and, by ability, tact and perseverance, have wrested success from them where others have met disappointment and failure. In the last analysis it is the man himself who counts.

By co-operation of the retail merchants, jobbers and manufacturers much even yet might be done to encourage and sustain those who so far have fought the fight and won, and thus keep conditions as much as possible from going from bad to worse, but the bad is incurable.

Revolution Counter.

Schuchardt & Schütte, 136 Liberty street, New York, are marketing the Revolution counter here illustrated, nearly full size. The outer graduations record units, the lines of the inner circle signifying 100s for each mark, recording thus in a single revolution of the dial a total of 10,000, and repeat if necessary. The worm on the spindle actuates the notched dial plate. The units hand



Revolution Counter.

is stationary, but the inner hand recording hundreds and thousands moves, and may be quickly brought back to 0 when the result is obtained for a fresh start by a finger pressure on the brass thumbpiece extension of the smaller and inner hand. The tool is made of nickel plated brass, except the steel driving spindle and worm. The counter is suitable for such purposes as ascertaining the speed of motors, machine tools, shafting, engines, spinning and textile machinery, printing presses or for finding the actual revolutions in a given period in connection with anything of a revolving character. The counter is $3\frac{1}{2}$ in, long, and is put up singly in a cloth covered sliding pasteboard box.

Bay State Carriage and Tire Bolt Ratchet Wrench.

The Tudor Mfg. Company, Taunton, Mass., has added to its line the double end carriage and tire bolt ratchet wrench here illustrated. The company states that the tool is of sound mechanical construction, and made of the best material. The nuts are turned on or off by merely reversing the handle. Three sizes are offered: No. 1 for 3-16 and ½ tire bolts, No. 2 for 5-16 and % bolts and No. 3 for 7-16 and ½ bolts. They are 6, 7 and 8 in. long, respectively. Nos. 2 and 3 take hexagon time required for food to remain in the fireless cooker before it is done. After an article has been properly started over a fire the kettle with its boiling contents is transferred to the cooker can, Fig. 2, after placing from ½ to 1 gal. of boiling water in the cooker can. Various articles may be included in the cooker at the same time.

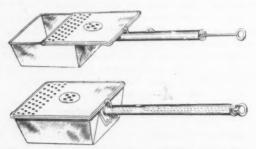


Bay State Double End Carriage and Tire Bolt Ratchet Wrench.

as well as square nuts. The wrenches are put up in pasteboard boxes holding one dozen and packed in gross cases.

The Delphos Improved Sheet Iron Corn Popper.

The accompanying illustrations represent a sheet iron corn popper, open and closed, as made by the Delphos Mfg. Company, Delphos, Ohio. The lid is opened and closed by the rod contained in the handle, having a kink, as shown in the lower illustration, which holds the lid firmly wherever placed, whether entirely covering the



The Delphos Improved Sheet Iron Corn Popper.

pan or half open to remove contents. The rod does not become heated and can be used without burning the fingers. When the lid is closed imperfect or unpopped grains may be shaken through the holes in front. On the depression in the center of the lid seasoning may be placed without taking off the lid. The popper is made of polished blued steel, lacquered and neatly packed, 1 doz. in a crate.

The Magic Cooker.

The American Woodenware Mfg. Company, Toledo, Ohio, is offering the fireless cooker shown herewith. The company emphasizes the fact that the jacket, Fig. 1, is



Fig. 1.—The Magic Cooker.

made of quartered white oak, similar in construction to liquor kegs. This is a close fiber wood with grain running crosswise, and will not seep, soak or absorb. The patent steel top is light, flexible, strong and convenient, so that the jacket is sealed air tight by a turn of the eccentric knuckle. The steel bails on the top of cover afford The convenient handles. cooking receptacle, Fig. 2, is arranged to rest on a steel rim, so that the can does not come in contact with the jacket, thus leav-

ing a vacuum chamber between the outer and inner wall. This affords an insulator, and is a nonconductor of heat or cold. A table is given in the company's illustrated booklet showing the time required to boil articles of food on a stove before placing them in the fireless cooker, the time varying from 5 to 30 min. Another table gives the

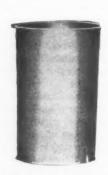


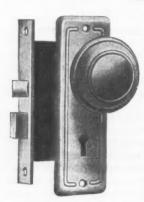
Fig. 2 .- Inner Can to Cooker.



Fig. 3.—Cooking Utensils that Fit Inside of Cooker Can.

When the cooker has been filled the cover is fastened in place by the lever. It is stated that food cannot be overcooked, burned or spoiled by leaving it an indefinite time in the fireless cooker.

Door Sets of Kent Design.



Door Set of Kent Design.

The accompanying illustration is of a neat and attractive design of inside door set placed on the market by the Taylor & Boggis Foundry Company, Cleveland, Ohio. It is made in both wrought steel and wrought bronze metal and furnished in all finishes. The design is supplied, in addition to inside door sets, in mortise sets, sliding door sets, Bit key front and vestibule door sets, cylinder front and vestibule door sets, push plates, push buttons and flush sash lifts.

Universal Self-Locking Stayput Pulley.



Universal Self-Locking Stayput Pulley.

The Evan L. Reed Mfg. Company, Sterling, Ill., is manufacturing the Stayput pulley, one of which suspending a bunch of bananas is here illustrated. The company recommends it especially for such purposes as squeezing corn in the shock, in connection with trap doors and windows, for getting harness and blankets out of the reach of rats and other destructive agents, for hanging and taking up slack in clothes lines, for use with display devices, and as a wire stretcher or for suspending articles of any kind. The pulleys are made of pressed steel, japanned, and are supplied with cord ready for use.

F. Nicholas of the Wilton-Nicholas Hardware Company, Harrisonburg, Va., has disposed of his stock in the company to E. C. Wilton. The concern is a stock company chartered under the laws of Virginia, and the management will continue practically without change.

The Speedy Lever Rotary Washer.

An improved washing machine recently added to the line made by the H. F. Brammer Mfg. Company, Davenport, Iowa, is here illustrated. Simplicity, strength and compactness of gearing are points particularly emphasized in the machine, together with ease of operation. It is described as composed of few parts, all of which are relatively proportioned with respect to weight and strength, and the gearing is securely covered to guard against the possibility of accident to the operator. The movement is provided with an automatic action which causes the dasher or agitator to reverse its action at regular intervals, and is operated by a lever arm, so arranged as to permit the washer to be worked while the operator is seated. An even, steady motion of the machine is secured by the momentum of the flywheel, which is geared to rotate at a high speed to overcome the inertia due to the load and reverse motions, with the expenditure of comparatively little power. Both sides and bottoms of the tub are corrugated like a washboard, thus increasing the extent of rubbing surface. The body of the tub is free from bolts or bolt holes, and the flywheel revolves on a ball bearing. The machine is firmly supported on legs formed of extended staves, which are securely reinforced by cross bracing near the bottom ends. A tight fitting lid of double thickness serves to retain



The Speedy Lever Rotary Washer.

the steam and heat and prevents undue cooling of the contents of the tub. Opposite the lever is a shelf for the attachment of the wringer. The washer is constructed of Louisiana red cypress and is finished in the natural color of the wood, with gold bronze hoops and gearing and flywheel painted green, giving it an attractive appearance. A one-year guarantee against defective material and poor workmanship is furnished by the company.

The Diagraph Stencil Cutter.

The stencil cutting machine here illustrated is made by the American Diagraph Company, St. Louis, Mo., and is designed for use by both shippers and carriers to in-sure plain and correct marking. The machine here shown is designed to cut cardboard stencils, which it is claimed can be cut at a cost of about 1-10 cent each. The letter cutting dies are carried on a revolving wheel, which rotates either to the right or left with a touch. An indicator on a stationary dial points to each character as it comes under the depressing lever, rendering its accurate operation an easy matter. Each depression of the lever cuts one character and moves the cardboard one space into position for the next cut. Spacing is accomplished by a half depression of the lever, which moves the stencil board one space without cutting. The machine is simple not only in construction, but can be readily and rapidly worked with no special skill or practice. All parts are interchangeable, so that should a die wear out it could be supplied separate from the plunger. The device is made in two sizes, which are designated as

the Regular and the Baby; the former cuts letters % in. high, in six lines of any length, and the latter cuts letters ½ in. high up to and including six lines. The Regular is described as suitable for all lines handling small articles, boxes or packages, while the Baby is especially

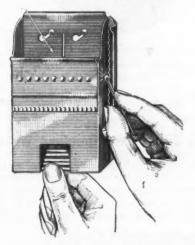


The Diagraph Steneil Cutter.

adapted for marking on surfaces of small area. The only difference in the two machines is the size of the letter and the number of lines cut.

The Lusk Match Safe.

The Dayton Company, 438 Plymouth avenue, Buffalo, N. Y., is putting on the market the match safe herewith illustrated. It is made of sheet metal and is substantially and durably constructed. The match safe is ornamental and offered in five different finishes-buffed, brushed and oxidized copper, brushed brass and nickel plated. The corrugated strip on which the matches are struck is protected by a special spark guard against fire, which might be caused by flying sparks or match heads. The safe holds over 200 matches at one time. The interior of the safe is so arranged that the matches are taken from the bottom one at a time, and are easily removed. A sliding plate, which completely covers the matches, follows them down by gravitation as they are removed from the bottom, leaving a space for the burned matches, which are put in the top of the safe, and are



The Lusk Match Safe.

kept separate from the unused matches by the plate. Thus the 200 burned matches are accommodated in the space that the good matches first occupied. After the good matches have all been used and the space filled with the burned ones, the safe may be easily removed from the wall for emptying and refilling. The scratcher avoids the necessity of scratching matches on the woodwork or wall paper. It is pointed out that in hotels a safe will pay for itself every month in the matches usually taken by guests, as they are not likely to go to the trouble of pulling out a quantity of them one by one.

All Steel Sash Pulleys.

The two sash pulleys here illustrated are examples of the Triple all steel type made by the Bridgeport Sash Pulley Company, Grand Rapids, Mich., at its Bridgeport, Conn., factory. Being stamped with dies from sheet steel, uniformity of size is assured, and in the interest of strength and durability the wheels are mounted on \(\frac{1}{2} \)-in. steel axles with heavy steel bushings. The two pulleys here shown in Figs. 1 and 2, designated respec-



Fig. 1 .- All Steel Sash Pulley No. 111.

tively as No. 111 and No. 11, differ only in the means provided for fastening into the mortise. Fig. 2 represents the latest pattern having saw tooth projections on each end, which when driven into the mortise are designed to hold it securely. No screws or nails are used in either case. No. 111 is recommended for use in soft pine frames, and No. 11 is described as especially adapted for service in harder woods, such as yellow pine. The pulleys are furnished without special finish unless bronze, brass or copper oxidized plated finishes are desired.



Fig. 2 .- All Steel Sash Pulley No. 11.

They can also be supplied with Brassoline lacquer on face and wheel. The pulleys are packed and shipped in barrels of 100 dozen, each weighing about 100 lb., all shipments being made from the factory at Bridgeport, Conn.

The Brock New Standard Wrench.

The Brock Wrench Mfg. Company, 18 Dey street, New York, is offering the wrench herewith illustrated. It has an interchangeable jaw and effects quick adjustment of chain. It is made in sizes to take ½ to 16 in. pipe. The adjustments are made for intermediate sizes of pipe

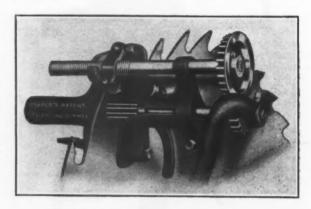


The Brock New Standard Wrench.

by having each pin on each link catching in the claw. The solid jaw permits the wrench being used on any pipe fitting, flange, valve, nut or bolt. The wrench is of new design, and includes a heavier head and extra strong round handle. Each wrench is tested before leaving the factory and the goods are fully guaranteed.

The New Mixter Patent Peerless Saw Gummer.

The saw gummer shown herewith is put on the market by the J. W. Mixter Saw Tool Company, Plymouth, Mass. It is referred to as a marked advance upon the company's Champion burr gummer, and is said to retain all the advantages of burr gummers while obviating the disadvantages. Instead of feeding vertically into the gullet of the saw tooth, the feed is horizontal from the side. The gumming is done by a taper reamer cutter 4 in. long. It is the taper of this reamer, 9-32 in., which does the gumming. The reamer cutter is detachable from the cutter arbor, and therefore inexpensive, being made in sizes from % in. to 1 in. There are two bearing wheels or trolleys, one on the outer end of the reamer and one on the cutter arbor next the inner end of the reamer, which insures the entire absence of spring in the cutting part while the machine is at work. These bearing wheels are kept from revolving, and so wearing the main easting by means of lug pins which travel in slots provided for them. The arbor and cutter end turn in the bearing wheels. The chips of steel made by the gumming fall down through the slots and so do not interfere with the wearing of the bearings. The machine is fastened to the saw by means of a cam lever and toggle, adjustable for the different thicknesses of saws, which is referred to as being far more easily and quickly done than with



The New Mixter Patent Peerless Saw Gummer.

hand screws or thumb screws. There is a gauge, adjustable in two directions, for securing the proper position on the saw tooth and insuring that all the teeth will be gummed alike. The placing in position to gum at the proper angle is said to be much more easily accomplished than with the ordinary burr gummer. The drive of the feed is automatic and obtained from a threaded arbor, distinct from the cutter arbor, which works in a clutch nut. When the tooth is gummed the clutch nut disengages itself, and, being held open by the thumb and finger, the whole feed part and cutter arbor are quickly drawn back for another operation. There is a flange on the outer side of the gear on the feed arbor which forces the reamer cutter into the gullet of the tooth. The crank is attachable in two places—to the small arbor gear by a clutch, thus saving key pins, and to the arbor itself by a set screw, so that it can be readily used at full length or shortened for quick work on thin saws. The bearing for the cutter arbor is slotted and has a bolt for tightening which admits of taking up the play as it wears. There is nothing in the gummer, it is explained, that will wear out by constant use, except the reamer cutter, and that, it is pointed out, is much more durable than an old style burr, as the reamer cuts with a shearing cut and the teeth cannot chip off by turning backward or from taking hold unevenly. Also the whole of the reamer cutter is used automatically in each operation and no care has to be taken to oscillate from side to side, as with the old style burrs. The chief distinctive features of the gummer, as enumerated by the manufacturer, are the detachable reamer cutter, the cam lever and toggle device for quick attachment to the saw, and the durability of all parts and resulting cheapness of maintenance.

Solid Steel Wrench.

The Peck, Stow & Wilcox Company, Southington, Conn., and 27 Murray street, New York, has just put on the market the solid steel Screw Wrench, here shown. Fig. 1 illustrating it as used, and Fig. 2 showing the three parts disassembled. The noteworthy peculiarity in this construction is the method of drop forging from one piece of steel the entire head, bar and handle, which is then machined accurately, insuring a smooth, easy movement of the parts when in use. The sliding jaw is assembled on the bar, under the company's patents, by



Fig. 1 .- Solid Steel Wrench, Complete.

opening both jaw loops in center of back, inclosing the bar, and securely riveting the closed openings, so that the operation can scarcely be seen, this in no way impairing the strength of that part, as the strain is on the other side. This is the same method as used in connection with the company's solid handle wrench, long familiar to the trade, the essential difference in the two wrenches being



Fig. 2.-Wrench in Parts.

that the older wrench has two wood scales riveted on to the solid handle, while the new wrench is largely a single bar of steel, capable of withstanding the hardest usage. The fact that there are but three parts in all makes the wrench extremely simple as well as strong. It is made in the seven regular sizes, 6 in. to 21 in., inclusive.

PAINTS, OILS AND COLORS

Animal, Fish and Vege-
table Oils- wgal.
Linseed, State and Western, raw42 @45
raw
Lard, Prime, Winter
No. 1
Yellow Winter
Tallow, Acidless
Light Strained
Cocoanut, Ceylon 9 b 6% 6% Cochin 9 b 6% 7% Cod, Domestic, Prime 41 @43
Newfoundland
Neatsfoot, Prime
Mineral Oils-
Black. 29 gravity, 25@30 cold \$\ gal.\ test \ 13 \ @17\\\2\ 29 gravity, 15 cold test \ 13\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Cylinder, light filtered
903 sp. gravity
Red13½@14
Miscellaneous—
White, Foreign
Off color
China Ciay, imparted to con visual total

The same of the sa	Cobalt, Oxide	2 100 lb 21.80 21.45 22.95 21.90
ı	Spirits Turpentine-	gal.
	In Oil bbls	
	Glue-	39 Tb
	Cabinet 12 Common Bone. 17 Common Bone. 18 Extra White. 18 Fish, liquid, 50 gal. bbls., per scale 10 60 Foot Stock, White. 12 Foot Stock, Brown 12 German Common Hide. 10 German Hide. 12 French 10 Irish 15 Low Grade. 10 Medium White. 14 Medium White. 14 Medium White. 14 Medium White. 15 Medium White. 16 Medium White. 17 Medium White. 18 Medium Whit	@15 4@ 9 @24
	Gum Shellac-	The state of
	Black Lamphlack 19	@35 @40 @47 @35 @28 @21 @48 @47
	Blue, Chinese	@46 @36

Blue, Ultramarine. Brown, Vandyke. Green, Chrome. Green, Paris. Sienna, Raw. Sienna, Burnt. Umber, Raw.	11 @14 12 @16 12 @15 12 @15 12 @15 11 @14
White and Red, Lead	ac
Lead, English white, in Oil Lead, American White: Dry and in Oil, 109, 250 and 500 fb kegs. Dry and in Oil, 125 and 50 fb kegs. Dry and in Oil, 125 and 50 fb kegs. In Oil, 25 fb tin pails. In Oil, 124 fb tin pails. In Oil, 12, 2 and 5 fb tin cans, ass't. Red Lead and Litharge: In 100 fb kegs. In 25 and 50 fb kegs. In 125 and 50 fb kegs. In 125 and 50 fb kegs. In 125 and 50 fb kegs. In 126 fb kegs. In 127 fb kegs. In 128 and 50 fb kegs.	714 714 714 8 8 9 714 714
Zinc, Dry-	39 Tb
American, dry	
process) Green Seal	7%@ 8% 8%@ 8%
Dry Colors-	39 B
Black CarbonBlack Drop, American	.61/2@10 .31/2@8

9 3	
Black Drop, English 5 @15	
Black, Ivory	
Blue. Celestial 4 @ 6	
Blue, Chinese	
Blue, Ultramarine	
Carmine, No. 40	5
Green, Chrome, ordinary 31/20 5	
Green, Chrome, pure17 @25 Ocher, American	
American Golden	6
Foreign Golden 3 (a) 4	
Orange Mineral, English10 @12 French12%@13	
German	
American 9 @10 Red, Indian, English 4%@ 6	
American 3 @ 35	6
Red, Turkey, English 4 @10	_
	5
Red. Venetian, Amer. # 100 fb \$0.50@1.2 English # 100 fb \$1.15@1.0	10
Sienna. Italian, Burnt and	
Powdered	
American Raw	
Talc, French	0
American	0
Terra Alba, French 30 100 lb .90@ 1.0 English	10
American 9 100 fb, No. 1 75@ .8 American 9 100 fb, No. 2 60@	50
Umber, Tkey, Bnt, & Pow., 2%@3	
Turkey, Raw and Powdered. 2%@ 3	
Burnt, American	
Yellow, Chrome, Pure13%@15	
Vermillon, American Lead 7 @25	
Quicksilver, bulk	
English, Imported	
Chinese\$0.90@1.0	PU

THE IRON AGE

The oldest paper in the world devoted to the interests of the Hardware, Iron, Machinery and Metal Trades, and a standard authority on all matters relating to those branches of industry.

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Current

General Goods.—In the following quotations General Goods—that is, those which are made by more than one manufacturer—are printed in *Italics*, and the prices named, unless otherwise stated, represent those current in the mar-ket as obtainable by the fair retail Hardware trade, whether from manufacturers or jobbers. Very small orders and broken packages often command higher prices, while lower prices are frequently given to larger buyers.

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Range of Prices.—A range of prices is indicated by means of the symbol @. Thus 33 % @ 33 % & 10% signifies

that the price of the goods in question ranges from $33\,\%$ per cent. discount to $33\,\%$ and 10 per cent. discount,

Names of Manufacturers.—For the names and addresses of manufacturers see the advertising columns and also The Iron Age Directory, issued May, 1907, which gives a classified list of the products of our advertisers and thus serves as a directory of the Iron, Hardware and Machinery trades.

Standard Lists .- "The Iron Age Standard Hardware Lists" contains the list prices of many leading goods.

Additions and Corrections.-The trade are requested to suggest any improvements with a view to rendering these quotations as correct and as useful as possible to Retail Hardware Merchants.

Advetors Blind	Axes—	Hand-	Plow and Stove-
Adjusters, Blind— Columbian and Domestic33%%	Single Bit, base weights: Per doz. First Quality\$4.75@5.00	Polished, Brass60@60&10% White Metal60@60&10%	Plow
North's	Second Quality \$4.25@4.50	Nickel Plated50&10% Swiss50&10%	Tire-
Window Stop-	Double Bit, base weights: First Quality\$7.00@7.50	Cone's Globe Hand Bells33%@35%	Common Iron
Ives' Patent	Second Quality\$6.50@6.75 Axle Grease—	Miscellaneous— Farm Bellslb., 21/4@21/2¢	American Screw Co.:
Ammunition—See Caps, Car-	See Grease, Axle.	Farm Bells	Eagle Phila, list Oct. 16, '84821/2'/ Ray State list Dec. 28, '90, 80?
tridges, Shells, &c.	Axies— Iron or Steel. Concord, Loose Collar44@444	Belting— Leather—	Franklin Moore Co.: Norway Phila, list Oct. 16 '84, 80%
Anti-Rattlers-	Concord, Solid Collar 41/265 ¢	Standard70&10@70&10&5% Light	Eagle Phila., list Oct. 16, '8482\\\ Eclipse list Dec. 28, '99 80'\
Fernald Mfg. Co. Burton Anti- Rattlers, # doz. pairs, Nos. 1, \$0.75; 2, \$0.60; 4, \$1.00; 5, \$0.50. Fernald Quick Shifter, # doz. pairs	No. 1 Common, Loose3\\@4 \circ\ No. 1\\2 Com., New Style.4\\@4\\\ No. 2 Solid Collar4\\@4\\\	Cut Leather Lacing60@60&10% Leather Lacing Sides, per sq. ft. 20¢	American Screw Co.: Norway Phila. list Oct. 16, '8480', Eagle Phila, list Oct. 16, '8480', Eagle Phila, list Oct. 16, '8480', Bay State, list Dec. 28, '9980', Franklin Moore Co.: Norway Phila, list Oct. 16, '8480', Eagle Phila, list Oct. 16, '8480', Eclipse, list Dec. 28, '9980', Russell, Burdsall & Ward Bolt & Nut Co.: Empire, list Dec. 28, '9980', Norway Phila, list Oct. '8480', Norway Phila, list Oct. '8480',
Anvils—American—	Half Patent: Nos. 7, 8, 11 and 1270%	Rubber-	Eagle
	Nos. 13 to 14	Competition (Low Grade), 70&10@75%	Shelton Co.: Tiger Brand, list Dec. 28, '9980%
Eagle Anvils	Nos. 19 to 2270&10@70&10&5% Boxes, Axles-	Best Grades	Tiger Brand, list Dec. 29, '99 80% Phila., Eagle, list Oct. 16, 1884.82½% Upson Nut Co.: 72½%
Smedich Gold Steel Siego Superior	Common and Concord, not turnedlb., 5@6¢	Bench Stops-	Borers, Bung-
## B	Common and Concord, turneu,	See Stops, Bench Benders and Upsetters,	Rorers Rung Ring with Handle:
Anvil, Vice and Drill-	Half Patentlb., 91/2@10¢	Tire-	Inch 1¼ 1½ 1¾ 2 Per doz\$4.80 5.60 6.40 8.00
Millers Falls Co., \$18.0015&10%	Bait- Fishing-	Green River Tire Benders and Up-	Inch
Apple Parers - See Parers,	Hondry'	setters20%	Inch
Apple, do. Aprons, Blacksmiths'—	A Bait20% B Bait	John S. Leng's Son & Co.'s 1908 list:	
Livingston Nail Co10%	Competitor Balt	Chain, Parts, Spokes	C E Jennings & Co
Augers and Bits-	Balances Sash- Caldwell new list50&10%	Bits-	C. E. Jennings & Co
Com. Double Spur75&10@80% Jennings' Patn., Bright.65&10@70%	Pullman	Auger, Gimlet, Bit Stock Drills, &c.—See Augers and Bits.	Acme
Black Lip or Blued65@6566% Boring Mach. Augers70%	Spring- Light Spring Balances.60@60&5%	Blocks Tackle-	Seavey
Car Bits, 12-in, twist40&10% Ford's Auger and Car Bits40&5%	Chatillan's	Common Wooden 75@75&5% B. & L. B. Co. :	Braces—
Ft. Washington Auger Co., Con-	Light Spg. Balances50@50&10% Straight Balances40@40&10%	Common Wooden	Comman Ball, American\$1.50 Barber's50&10&10@60&10%
ard's	Circular Balances50&10% Large Dial30%	Star Wire Rope, 50%; Tarbox Metal Spatch, 50%; Tarbox New	Fray's Genuine Spofford's
Forstner Pat, Auger Bits	Barb Wire-See Wire, Barb.	Style Steel, 50&10%; Wire Rope Snatch, 50%.	C. E. Jennings & Co
No. 30, R. Jennings' list	Steel Crowbars, 10 to 40 lb per lb., 21/4@21/4	Lane's Patent Automatic Lock and Junior	Mayhew's Quick Action Hay Pat50% Millers Falls Drill Braces25&10% P., S. & W. Co., Peck's Pat60&10%
Maybew's Countersink Bits45%	Towel-	Boards, Stove-	Brackets-
Pugh's Black 29% Pugh's Jennings' Pattern 35% Snell's Auger Bits 60% Snell's Bell Hangers' Bits 60% Snell's Car Bits 12-in twist 60%	No. 19 Ideal, Nickel Plate. P gro. \$8.50	Paper and Wood Lined55% Embossed55%	Wrought Steel 75410@754104109
Snell's Bell Hangers' Bits60%	Beam, Scale— Scale Beams	Boards, Wash-	Griffin's Pressed Steel75@75&10%
Snell's King Auger Bits50% Wright's Jennings' Bits50%	Chattillon's No. 130% Chatillon's No. 240%	See Washboards.	Bradley Metal Clasp 89&10@80&10&5 / Griffin's Pressed Steel
Bit Stock Drills-	Beaters, Carpet-	Bobs, Plumb— Keuffel & Esser Co3314%	Bright Wine Goods \$1.50
See Drills, Twist.	Holt-Lyon Co.:	Bolts	See Wire and Wire Goods.
Expansive Bits- Clark's Pattern, No. 1, \$\pi\$ doz., \$26;	No. 12 Wire Coppered & doz. \$0.80; Tinned	Carriage, Machine, &c,-	Broilers—
No. 2, \$18	Tillied	Common Carriage (cut thread): % x 6 and smaller75&5@—	Kilbourne Mfg. Co
C. E. Jennings & Co., Steer's Pat. 25%	No. 10 wire Tinned w doz. or.oo	Larger and longer70@—% Phila. Eagle, \$3.00 list80@—%	Wire Goods Co75%
Lavigne Pat., small size, \$18.00; large size, \$26.00	Beaters Egg- Dover Stamping & Mfg. Co.: Genuine Dover, per gro., No. 1,	Bolt Ends	Buckets, Galvanized — M'fr's list, price per gross.
Gimlet Bits-	Tumbler Size, \$7.50; No. 2, Family Size, \$7.50; No. 3, Extra Fam-	% x 4 and smaller 75&10@	Quart. 10 12 14 7 9
Common Dbl. Cut\$3.00@3.25	Genuine Dover, per gro., No. 1, Tumbler Size, \$7.50; No. 2, Fam- ily Size, \$7.50; No. 3, Extra Fam- ily Size, \$24.00; No. 4, Hotel Size, \$30.00.	Larger and longer70@—% Door and Shutter—	Water, Reg 26.85 29.50 33.50 Water, Hvy 45.35 48.00 52.00
German Pattern, Nos. 1 to 10, \$4.75; 11 to 13, \$5.75	Holt per doz. No. 5. Jap'd. \$0.80;	Cast Iron Barrel, Japanned,	Fire, Rd. Btm. 32.00 34.65 38.65 Well37.35 41.35 45.35
Hollow Augers-	Holt-Lyon Co.; Holt, per doz., No, 5, Jap'd, \$0.80; No, A, Jap'd, \$1.15; No. B, Jap'd, \$1.85; No. 6, Jap'd, \$1.85; Lyon, Jap'd, per doz., No, 2, \$1.35;	Round Brass Knobs: Inch 3 4 5 6 8 Per doz. \$0.30 .35 .45 .60 .80	Bull Rings-See Rings Rull
Bonney Pat., per doz. \$5.50@6.00 Ames	Lyon, Jap'd, per doz., No. 2, \$1.35.	Per doz. \$0.30 .35 .45 .60 .80 Cast Iron Spring Foot, Jap'd:	Brass-
Universal20%	Taplin Mfg, Co.: Improved Dover, per gro., No. 60,	Inch	Wrought, High List, Oct. 26, '06.55 % Cast Brass, Tiebout's
Ship Augers and Bits- Ship Augers40&10@—7	\$1.35. Taplin Mfg. Co.: Improved Dover, per gro., No. 60. \$6.00; No. 75, \$6.50; No. 100, \$7.00; No. 102, Tin'd, \$8.50; No. 150, Hotel, \$15.00; No. 152, Hotel Tin'd, \$17.00; No. 202, Tumbler, \$8.50; No. 202, Tumbler Tin'd, \$9.50; No. 300, Mammoth, per doz., \$25.00.	Cast Iron Chain, Flat, Japanned:	Cast Iron-
Ford's	Hotel, \$15.00; No. 152, Hotel Tin'd \$17.00; No. 200 Tumbler.	Inch	Fast Joint, Broad 40&10@50% Fast Joint, Narrow 40&10@50%
Ship Augers 40&10@—7 Ford's 33%&5% C. E. Jennings & Co.: 6% L'Hommedieu's .6% Watrous' .33%&7% Spall's .33%&7%	\$8.50; No. 202, Tumbler Tin'd, \$9.50; No. 300, Mammoth, per	Cast Iron Flat Shutter, Jap'd, Brass Knobs:	Loose Joint 70&10075%
Ench 820 /o	doz., \$25,00.	Inch	Loose Pin
Awl Hafts—See Handles, Mechanics' Tool.	Bellows— Blacksmith, Standard List:	Inch	Parliament Butts70@70&5
Awis—	Split Leather	Barrel Bronzed60&10%	Wrought Steel-
Brad Awls:	Grain Leather50@50&10% Hand- Inch. 6 7 8 9 10	Spring70&10@70&10&10%	Bright. Light Narrow, Light Re-
Handledgro, \$7.75@3.00 Unhdled, Shideredgro.63@66¢	Inch. 6 7 8 9 10 8 Doz 8500 5.50 6.00 6.50 7.50 5	Shutter	versible
Unhandled, Patent 7 0.66@70¢	Molders-	Square	Loose Joint, Narrow, Light
Unhandled, Patent gro. 31@34¢	Inch 10 12 14 16 6	Ives' Patent Door	Back Flaps, Table Chest .65%
Unhdled, Shidered gro. 65@70¢	Doz \$7.50 9.00 12.00 15.00 >		
Beratch Ancis:	Bells- Cow-	F. H. Evans' Crescent40@60%	Light Narrow, Loose Pin.
Scratch Awls: Handled, Comgro. \$3.50@4.00 Handled, Socket are \$11.50@19.00	Bells— Cow- Wrought Cow Bells75%	F. H. Evans' Crescent	Light Narrow, Loose Pin,
Reratch Avis: Handled, Comgro. \$3.50@4.00 Handled, Socket.gro.\$11.50@22.00 Awi and Tool Sets—See	Bells- Cow-	F. H. Evans' Crescent. 40@60% Richards Mfg. Co. 55&10% Steward & Romain Mfg. Co.; Style No. 13. Double. 60% Style No. 1 Single. 60% Style No. 100, Dbl. Jaw. Single. 55%	Light Narrow, Loose Pin.

C	Chest
Cages, Bird— Hendryx Brass: Series 3000, 5000,	American Boys' Ch Youths'
1100, net list; 1200, 15%, 200, 300,	Gentleme
900 Hendryx Bronze: Series 700, 80030% Hendryx Enameled35%	Farmers' with T Machinis
Calipers—See Compasses.	Chests, Tool Ca
Calks, Toe and Heel-	C. E. Jen Tool Che
Blunt, 1 prong, per lb 4@4/4\$ Sharp, 1 prong, per lb 4/2@5¢ Burke's, 1 pg. Blunt Toe, 34/6; 2 pg. Blunt Toe, 44/6; 1 pg. Short Toe, 44/6; 2 pg. Sharp, 44/6; Blunt Heel, 44/6; Sharp Heel 44/6 Lautier, Blunt, 4@4/4; Sharp, 4/2@4*4 Perkins', Blunt, 4/2 bg. 5, 3,65/6; Sharp.	Chise
Blunt Toe, $4\% \epsilon$; 1 pg. Short Toe, $4\% \epsilon$; 2 pg. Sharp. $4\% \epsilon$; Blunt	Socket Standard
Heel. 446; Sharp Heel4%¢ Lautier Blunt, 4@4%¢; Snarp, 4½@4%¢	Buck Bro
Perkins', Blunt, & ED, 3.65¢; Sharp, 4.15¢	Socket F Socket F
Can Openers— See Openers, Can.	Swan's L. & I. J.
Caps. Percussion-	Tanged 1
Eley's E. B. 52@55¢ G. D. per M 34@35¢ F. L. per M 40@42¢ G. E. per M 48@50¢ Musket per M 62@63¢	Buck Bros C. E. Jenr L. & I. J.
F. L	L. & I. J.
Primers-	Cold Chi
Berdan Primers, \$2 per M 20&5 Primer Shells and Bullets 15&10%	Cold Chi
All other primers per M . \$1.52@1.60	Chuck
See Stretchers, Carpet.	Almond T
Cartridges—	Empire
32 C. F., \$5.5010&5%	Blacksmith Jacobs' Di Pratt's Po Skinner P
22 cul. Rim, \$1.50 10&5%	Independ
Blank Cartridges: 32 C. F., \$5.50. 1045% 38 C. F., \$7.50. 1045% 38 C. F., \$7.00. 1045% 22 cal. Rim, \$1.50. 1045% 32 cal. Rim, \$2.75. 1045% B. B. Caps, Con. Ball, Segd \$190 B. B. Caps, Round Ball. \$1.49	Combina
B. B. Caps, Round Batt	Drill Ch Standar 25%; P Planer C
Primed Shells and Bullets. 15&10%	Planer C
Rim Fire, Sporting50% Rim Fire, Military15&5%	Face Pla Standard ' Improved Union Mfa
Casters-	Compina
Bed	7, 8 an Scroll C
cine Ball Bearing	Geared 8 Independ
fem (Roller Bearing)70&10&10&5 teel Gem	Indopend
Cattle Leaders—	Union Dri 102, 103 Union C Universal
See Leaders, Cattle.	Universal Iron Fac
Chain, Proof Coil— American Coil, Straight Link:	Universal Iron Fac 48 and Steel Fac 72
American Coll, Straight Link: 3-16 14 5-16 34 7-16 12 58 88.15 5.55 4.60 3.95 3.75 3.65 3.55	Westcott 1
\$3.45 3.55	Little Gi Little Gi
In cask lots, deduct 25¢.	Lathe Ci Little Gi Little Gi Little Gi Oneida I Scroll Co Whitaker National
Ferman Cott	Whitaker National
4, 0 4114 0	Clami
Halter— Talter Chains60&5@60&10%	Adjustable Carriage
Halter Chains	Co Besly, Par Myers' Ha
Halter35&5%	Lineman's Wood Woo
See Halters and Ties.	Saw Clamp
Trace, Wagon, &c Fraces, Western Standard: 100 pr.	Clean Iwan's Cha
Traces, Western Standard: 100 pr. 314—6-3, Straight, with ring \$28.00 315—6-2, Straight, with ring \$29.00 315—8-2, Straight, with ring \$32.00 314—10-2, Stright, with ring \$37.00 XXXXE 424 9 are pair for Hooks	Iwan's Cha
1/2-8-2, Straight, with ring .\$32.00 1/2-10-2, Str'ght, with ring .\$37.00	Star Socket Star Shank W. & C.
NOTE.—Add 2c per pair for Hooks wist Traces: add per pair for Nos. 2 and 3, 2c: No. 1, 3c; No. 0, 4c to price of	W. & C. 7½ in.,
traight Link.	Cleav
astern Standard Traces, Wag- on Chain, &c60&10@60&10&5%	Foster Bro Fayette R L. & I. J.
Miscellaneous-	Clip
1ron	Chicago F
afety and Plumbers' Chain. 75%	1902 Chic
Bridgeport Chain Co.: Triumph Halter and Coil.35&21/2@40%	Lightning Chicago Stewart's
Jel. Pump Chain lb., 4½@3% Sridgeport Chain Co.: Triumph Halter and Coil.35&2½@497. Triumph Dog 50&10@60 Frown Halter and Coil 45@50&5% lovert Mfg. Co.: Stal-Breast Halter. Heel. Bein. Stal-Breast Halter.	Stewart's Horse, Stewart's
Covert Mfg. Co.: Breast, Halter, Heel, Rein, Stal-	Stewart
Oneida Community: American Halter, Dog and Kennel	ing Mac
Herest, Haiter, Heer, Stat., S	Clips, Regular
Chains	Cloth
Universal DblJointed Chain50%	
I main and Dibbon Cook	—Se
Chain and Ribbon, Sash- Dneida Community:	Cocks
Oneida Community; Steel Chain	Hardward Plain B
Ducida Community: Steel Chain	Cocks Hardware Plain B Rackii &c
Dneida Community: Steel Chain	Cocks Hardware Plain B Racki &c Compre
Oneida Community: Steel Chain. 60%; Steel Chain. Pullman: Bronze Chain, 60%; Steel Chain. Coppered	Cocks Hardware Plain B Rackii &c
Oneida Community: Steel Chain	Cocks Hardwar Plain B Racki éc Compre Coffee See Collan Nickel Che
Oneida Community: Steel Chain	Cocks Hardware Plain B Racki éc Compre Coffee See Collai Nickel Cha Son's list
Oneida Community: Steel Chain. 60%; Steel Chain. Pullman: Bronze Chain, 60%; Steel Chain. Coppered	Cocks Hardware Plain B Racki &c Compre Coffee See Collan Nickel Son's list

THE IR	ON AGE
Chests, Tool— American Tool Chest Co.: Boys' Chests, with Tools	Conductor Pipe,— L. C. L. to Dealers: Gal. Steel. Charcoal, Northeastern. 706.10% 506.1047% Eastern 75% 506.1047% Pittsburgh 756.1065% 60% Northwestern. 706.10% 506.12½% Tennessee 706.10% 506.12½% Tennessee 706.10% 506.12½% Southern 70% 506.12½% Southwestern. 70% Southwestern. 70% 506.12½% Southwestern. 70% Southwestern.
Drill Chucks, New Model, 25%; Standard, 45%; Skinner Pat. 25%; Positive Drive	Cable Laid Russia 1b 21¢ India Hemp, Br'd'd 1b 21¢ India Hemp, Br'd'd 1b 21¢ India Hemp, Twisted 1b 15(£) Laid Hemp, Twisted 1b 15(£) Laid Hemp, Twisted 1b 17¢ Pearl Braided, cotton, No. 6. \$\mathbb{P}\$ h. 20\(\frac{1}{2}\)e*, No. 7, 19\(\frac{1}{2}\)e*, No. 8, \$\mathbb{E}\$ to 12, 19\(\frac{1}{2}\)e*, in 12 doz, to 100 doz, lots, Eddystone, Braided, Nos, 8 to 12, 26\(\frac{1}{2}\)e*, 26\(\frac{1}{2}\)e
Adjustable Hammers	Cradies— Grain
Stewart's Enclosed Gear Horse, each	International Silver Company: No. 12 M d'm Knives, 1917.

Slaw and Kraut-Diggers, Post Hole, &c-Petrection Post Hole Diggers, \$7.50 doz. \$8.75 Split Handle Post Hole Diggers, \$8.75 Hercules Pattern, \$7.50 doz. \$7.75 Hercules Pattern, \$7.50 Hercules, \$10.00 Hercules, \$10.00 Hercules, \$10.00 Invincible, \$9.00 Hival, \$8.50; Pioneer. \$7.50 Never-Break Crucible Steel Post Hole Diggers 60% Dividers-See Compasses. Drawing Knives-See Knives, Drawing. Dressers Emery Wheel-Sterling Emery Wheel Dressers.....35% Sterling Wheel Dresser Cutters.....35% Drills and Drill Stocks-15% Drivers, Screw-Drivers, Screw—

Screw D'ver Bits, per doz. 456650¢
Balsey's Screw Holder and Driver, \$\foxed{3}\$

\$\frac{45}{2}\$

Buck Bros. Screw Holder and Driver, \$\foxed{3}\$

\$\frac{45}{2}\$

Buck Bros. Screw Driver Bits. ... 30''
Champion ... 50''
Disston's ... 50''
Fray's Hol. H'dle Sets, No. 3, \$12.50'
Frord's Brace Screw Drivers. ... 40&10'
Gay's Double Action Ratchet. ... 35''
Goodell's Auto. ... 65655&19'
Mayhew's Black Handle. ... 40''
Mayhew's Monarch. ... 40''
Millers Falls, Nos. 20 and 21 ... 25&10''
Millers Falls, Nos. 11, 12, 14, 22, 15&10''
Smith & Hemenway Co. Newerturn, 6656''; Elmora, ... 30&10'',
Swan'a: Swan's: Nos. 7565 to 7560, 5%; No. 7540, 40&10% Eave Trough, Galvanized Terms.—2% for cash. Factory shipmeets generally delivered. Note.—Lower prices are made in some sections. See also Conductor Pipe and Elbows. Elbows and Shoes-Factory shipments, all territories: Galv. Steel and Galv. C. I. Standard Gauge 85@85&10% No. 26. 55% No. 24. 25% No. 22. 10% Elbows, Stove Pipe-Edwards, Standard Blue....40&10&10 / Edwards, Royal Blue........40&10&10 / Reeves, Dover, one piece......40&10 / Emery, Turkish— \$\frac{\psi to 5\psi to \quad \text{4} to \quad \quad \text{4} to \quad \quad \text{4} to \quad \quad \text{4} to \quad \quad \text{5} to Extractors, Lemon Juice--See Squeesers, Lemon.

550	THE IR
F	Grease, Axle-
Zimmerman's Jap'd and Galv.	Common Grade gro . \$6.00@\$6.50
Zimmerman's Jap'd and Galv. & 5%: Bronze and Plated. 0% Walling's	Common Gradegro.\$6.00@\$6.50 Dixon's Everlasting, 10-lb, pails, ea. \$5 \(\epsilon\); in boxes, \(\psi\) doz., 1 \(\psi\), \(\psi\), 20 2 \(\psi\)
Upson's Patent	2 lb
Cord and Weight-	Griddles, Soapstone-
Corrugated— Acme Corrugated Fasteners70%	Pike Mfg. Co3314@3314&10%
Faunate-	Grinders— Royal Mfg Co.:
Cork Lined50&10@60%	Royal Mfg. Co.: Alundum Grinding Machines, each, Nos. 01 \$1.75: 1A \$2.50: 10.
Cork Lined50&10@60% Metallic Key, Leather Lined, 60&10@70% Red Cedar	Annaum Grinding acach, Nos. 01, \$1,75; 1A, \$2.50; 10, \$5.00 Alundum Sickle Grinders, cach, Nos. 20, \$5.00; 20A, \$6.00; 20A, Combined, \$6.50
Red Cedar 1925@1921025%	Nos. 20, \$5.00; 20A, \$6.00; 20A
Petroleum	Alundum Disc Grinders, each,
Star	\$2.5030% Grindstones—
Star 66% West Lock 50&10% John Sommer's Peerless Tin Key 40% John Sommer's Boss Tin Key 50% John Sommer's Victor Mtl. Key 50&10% John Sommer's Duplex Metal Key 60% John Sommer's Diamond Lock 60% John Sommer's Nature 10% John Sommer's Ratioble Cork Lined. John Sommer's Reliable Cork Lined. 50&10%	
John Sommer's Victor Mtl. Key.50&10%	Pike Mfg. Co.: Improved Family Grindstones, \$\partial \text{inch}, \$\partial \text{doz.}, \$2.0033\\\%\$ Richards Mfg. Co., Eli and Cycle, Ball Bearing, mounted40\%
John Sommer's Diamond Lock40%	Richards Mfg. Co., Eli and Cycle, Ball Bearing, mounted40%
John Sommer's Reliable Cork Lined 50&10%	Grips, Nipple-
John Sommer's Chicago Cork Lined 60%	Perfect Nipple Grips40&10&2%
John Sommer's Chicago Cork Lined. 60% John Sommer's O, K. Cork Lined 50% John Sommer's No Brand, Cedar 50% John Sommer's Perfection, Cedar 40%	Halters and Ties-
Self Measuring:	Cow Ties
Self Measuring: Enterprise, # doz. \$36.0040&10% Lane's, # doz. \$36.0040&10% National Measuring, # doz. \$36.40&10%	Triumph Coil and Halters. 35&21/2@40%
Felloe Plates—	Cow Ties
See Plates, Felloc.	
Files— Domestic-	Web
Best Brands	Sisal Rope
Standard Brands75&10(0.80%) Lower Grade75&10&10(0.80&10%)	Hemp Rope45% Oneida Community:
Imported—	Am. Coil and Halters40@40&5% Am. Cow Ties
Imported— Stubs' Tapers, Stubs' list, July 24, '9733%@40%	Covert Mrg. Co.: Web Jute Rope
54, '97 53 % @ 40 %	Hammers—
Fixtures, Fire Door- Bichards Mfg. Co.: Universal, No. 103; Special, No.	Handled Hammers-
Universal, No. 193; Special, No. 191	Heller's Machinists'55&10@55&10&5% Heller's Farriers40&5@40&10&5% Peck, Stow & Wilcox Co.:
Universal, No. 25, Special, \$3.75 Pusible Links, No. 96. 59/ Expansion Bolts, No. 107. 69&10% Grindstone—	Peck, Stow & Wilcox Co.: Crucible Steel40&10%
Net Prices:	Farriers'40&10% Riveting40&10%
Inch	Peck Stow & Which Co.
	Blacksmiths"
Fodder Squeezers-	Eng. and B, 8. Hand.50&10&5@60&5% Machinists' Hammers60@60&10%
See Compressors.	Heavy Hammers and
Forks— NOTE. — Manufacturers are	Heavy Hammers and Sledges-
NOTE. — Manufacturers are estiling from the list of September 1, 1804, but many jobbers are still using list of August 1, 1809, or selling at net prices. lowa Dig-Ezy Potato	Under 3 lb., per lb., 50¢80&10% 3 to 5 lb., per lb., 40¢80&10&10% Over 5 lb., per lb., 30¢ Over 5 lb., per lb., 30¢.80&10&10%
using list of August 1, 1899, or	Over 5 lb., per lb., 30¢ Over 5 lb., per lb., 30¢.80&10&10%
lowa Dig-Ezy Potato60&10%	Handles—
Victor Manure	Agricultural Tool Handles
	Axe, Pick, &c60&10@60&10&5% Hoe, Rake, &c40% Fork, Shovel, Spade, &c.: Long Handles40%
Champion, Manure	Fork, Shovel, Spade, &c.:
Columbia, Manure	D munuics
Hawkeye Wood Barley	Cross-Cut Saw Handles-
Champion Header	Champion
Dakota Header	Mechanics' Tool Handles-
Kansas Header	Auger, assorted gro . \$3.00@\$3.50
Plated,—See Spoons,	Brad Awlgro.\$1.65@\$1.75 Chisel Handles, Ass'd, per gro.:
Frames— Wood Saw- White, S'a't Bar, per dos.75@806	Tanged Firmer, Apple, \$2.40@
White, S'g't Bar, per doz. 75@806 Red, S'g't Bar, per doz. \$1.00@1.25	\$2.65; Hickory \$2.15@2.40 Socket Firming, Apple, \$1.75@ \$1.95 · Hickory 180@179
Red, Dbl. Brace, per doz.\$1.40@1.50 Freezers, Ice Cream—	\$1.95; Hickory1.60@1.75 Socket Framing, Hickory.
01 1 9 9 1 6	\$1.60@\$1.75 File, assortedgro.\$1.30@\$1.40
Each\$1.25 \$1.60 \$1.90 \$2.20 \$2.80 Fruit and Jelly Presses—	Hammer, Hatchet, &c., 60&10@60&10&5%
See Presses, Fruit and Jelly.	Hand Saw, Varnished, doz., 80& 85¢; Not Varnished65@75¢
Fry Pans—See Pans, Fry. Fuse— Per 1000 Feet.	Plane Handles:
Hemp\$2.75	Jack, doz., 30¢; Fore, doz454 Chapin-Stephens Co.: Carving Tool30@30&10%
Waterproof Sgl. Taped . 3.65	Chisel
Hemp	File and Awl
	Carving 100
Gates, Molasses and Oil— Stebbins' Pattern80@80&5%	Handles
Gauges—	
Marking, Mortise, &c 50@50&10% Chapin-Stephens Co. :	Indestructible File and Tool, 39 gro., No. 1, \$8.00; No. 2, \$8.50;
Disston's Marking, Mortise, &c67%	No. 3, \$9.00; No. 4, \$9.50; No. 5, \$10.00
Marking, Mortise, &c	W. A. Zelnicker Supply Co.: Hammer, & doz., 12 in., \$2.00;
dimiers - onigio our	J. L. Osgood: Indestructible File and Tool, 39 gro., No. 1, 38.00; No. 2, 38.50; No. 3, 39.00; No. 4, 39.50; No. 5, 510.00
Numbered assort-	\$3.00; 24 in., \$3.30; 26 in., \$3.50; 30 in., \$3.80.
Nail, Metal, No. 1, \$2.00; 2, \$2.30 Spike, Metal, No. 1, \$1.00; 2, \$1.30 Nail, Wood Handled, No. 1, \$2.30; 2, \$2.60	30 in, \$3.80; 26 in, \$3.50; 30 in, \$3.80; 30 in, \$3.80; octagon, 30 in., \$3.80; oval, 36 in., \$4.00; octagon, 36 in, \$4.00; octagon,
Nail, Wood Handled, No. 1, \$4.00; 2, \$4.30	oval. 36 in. \$4.00; octagon.
	36 in., \$4.00.
\$2.30; 2, \$2.60 Spike, Wood Handled, No. 1.	Axe, \$\partial \text{doz., 28 to 34 in., \$5.60;}
\$4.30 ; 2, \$4.60	Axe, \$\pi \doz., 28 to 34 in., \$5.60;
\$1.30: 2, \$1.60 Glass, American Window See Trade Report.	Axe, \$\pi \doz., 28 to 34 in., \$5.60;
\$1.30: 2, \$1.60 Glass, American Window See Trade Report.	Axe, \$\pi \doz., 28 to 34 in., \$5.60;
\$1.30: 2, \$1.60 Glass, American Window See Trade Report. Glasses, Level— Chapin-Stephens Co	Axe. \$\frac{3}{2}\ \text{doz.} 28 \text{ to 34 in., \$5.60;} \\ 36 \text{ in., \$5.80, \$5.80;} \text{ Adze, \$\frac{3}{2}\ \text{ doz., } 36 \text{ in., \$5.80;} 36 \text{ ln., \$7.80.} \\ \text{ Pick. \$\frac{3}{2}\ \text{ doz.} \text{ R. R. 36 in., \$3.60;} \\ \text{ adoz., \$12 \text{ to 14 in., } \$2.60.} \\ \text{ Harpers-}
\$1.50: 2, \$1.60 Glass, American Window See Trade Report. Glasses, Level— Chapin-Stephens Co	Axe, \$\psi\$ doz. 28 to 34 in., \$5.60; 36 in., \$5.80. Adze, \$\psi\$ doz., 35 in., \$5.80; 36 in., \$7.80. Pick. \$\psi\$ doz., R. R. 36 in., \$9.00; coal. \$4 in., \$5.80. Hatchet, \$\psi\$ doz., 12 to 14 in., \$5.90.

N AGE	
Chicago Spring Butt Co.:	1
Chicago Spring Butt Co.; Friction	
Cleveland	
Roller B'r'g St'l Track No. 13,32,50 Roller B'r'g, Nos, 39, 41, 43, Roller B'r'g, Nos, 39, 41, 43, Tokt'le', Hero, Adj. Track No. 19, 556,410', Adjustable Track Tandem Trolley Track No. 16	
Pullman Trouser, W gro. No. 1 \$9.00; No. 4, \$24.00; No. 5, \$16.50; No. 8, Black Enamel, \$7.50; No. 10, \$21.00; No. 12, \$8.00; No. 15, Rods. \$9.00; No. 18, Loops. \$10.00 Victor Folding. W gro. \$9.60	
Myers' Patent Gate Hangers. P doz., net	
Joist and Timber-	
Hasps—	
Griffin's Security Hasp50&10% McKinney's Perfect Hasp, \$\psi\$ doz60%	
Hatchets— Regular Wit, first qual.40.4121/2@— Second quality50.410.45@—	
Heaters, Carriage— Clark. No. 5, \$1.75; No. 5B, \$2.00; No. 3, \$2.25; No. 3D, \$2.75; No. 7D, \$3.00; No. 35, \$3.25; No. 1, \$3.50. 25% Clark Coal, \$\partial doz., \$0.75. 20%	
Hinges—	and the same
Blind and Shutter Hinges Surface Gravity Locking Blind: (Victor; National; 1868 O. P.;	
(Victor), National, 1868 O. P., Nagara; Clark's O. P., Clark's Tip; Buffalo.) No	
falo, &c.): No	,
North's Automatic Blind Fixtures, No. 2, for Wood, \$8,00; No. 3, for Brick, \$11.50. Charles Parker Co	
Stanley's Steel Gravity Blind Hinges. No. 16174. \$\Phi\$ doz. sets, without screws, \$0.55; with screws, \$1.25.	

August 20, 1900	-
Wrightsville Hardware Co.: O. S., Lull & Porter	3 00 58 35 00 60 75 35 75
Spring Hinges-	10
Holdback, Cast Iron \$6.75@\$7.	00
Non-Holdback, C'at Iron\$6.50@\$6	75
J. Bardaley: Bardsley: Non-Checking Mortise Floor Hinges	Extra 10% often given on most of these Hinges,
Strap and T Hinges, &c., list	
December 20, 1904; Light Strap Hinges, 50&10? Heavy Strap Hinges, 50&5? Light T Hinges, 50% Heavy T Hinges, 40% Extra Hvy, T Hinges, 50% Cor. Heavy Strap, 50% Screw Hook 6 to 12 in, 1b, 37 and Strap, 11 to 20 in, 1b, 37 Screw Hook and Eye;	Letra 10674
3, to 1 tuch	40
3. 10 1 mch 1b. 64 5%-inch 1b. 74 1/2-inch 1b. 84	50
Hitchers, Stall-	
Covert Mfg. Co., Stall Hitchers, 30.8-5	2%
Hods— Coal— M'f'gr's list, price per gross: Inch	
Inch	22
Jap. Open 26 28 31 35 Galv. Funnel 43 48 52 56	0671/20
Jap. Funnel 33 36 59 43 } Masons' Ecc.	-
Cleveland Wire Spring Co.: Steel Brick, No. 162each \$1. Steel Mortar, No. 158each \$1.	05 .35
Hoes— Eye— Scovil and Oval Pattern,	
Grub, list Feb. 23, 1899,	%
704 10@ 704 104 10	%
D. & H. Scovil	•

Handled- NOTE—Basylecturers are selling from the list of September 1, 1985, but of list of September 1, 1985, but of list of List of September 1, 1985, but of list	11081101 201 1900	THE IN
See Note of the second of the	Handled— NOTE.—Manufacturers are selling from the list of September 1, 1904, but many jobbers are still using list of Au- many jobbers are still using list of Au-	Kettles— Brass, Spun, Plain20@25% Enameled and Cast Iron—See Ware.
Tandard Marker Account	Gust 1, 1399, or searing at the process. Cronk's Weeding, No. 1,\$2.00; No. 2,\$2.50 Star Double Bit	Knives— Butcher, Kitchen, &c.—
Pr. Madison Dixis Tobacco Hovers (No. 18) Kretisinger S. Cut. Easy. 1808/196 W. & C. I. Vanhon. 1808/196 W. W. & C. I.		Foster Bros.' Butcher, &c30% Wilkinson Shear & Cutlery Co60%
B.	Ft. Madison Dixie Tobacco Hoe 75&10&7½%	Columbian Cutlery Co., Whent Brand Knives and Hooks60% Withington Acme, # doz., \$2,65; Dent, \$2,75; Adj. Serrated, \$2,20; Serrated \$2,10; Yankes No. 1, \$1,50;
See Machines, Holsting, Holders	Warren Hoe	Drawing-
Angular,	Hoisting Apparatus—	Jennings & Grimn, Nos. 41, 42,
Miscellaneous- Farriers May	Holders— Bit— Angular, P doz. \$24.0045&10%	Hay and Straw-
Black Fruit Jar	Bronze	Miscellaneous— Farriers' doz . \$2.60@3.55 Wostenholm's
Trance and Rein— Fernald buble Trare bloder, \$\psi\$ doz. \$4.00 Trace and Rein— Fernald buble Trare bloder, \$\psi\$ doz. \$2.00 Door, Por Jufy'd. \$0.02 Door, Por Jufy'd. \$0.00 Door, Por Jufy'd. \$	File and Tool— Nicholson File Holders and File Handles	Base, 2½-inch, Birch or Maple, Rubber Tipgro.\$1.25@1.40 Carriage, Jap., Drive, all sizes,
See Belting, Leather Ladders, Store, &c.	Trace and Rein- Fernald Double Trace Holder, \$\partial doz.	aro . salatave
Hooks—Cast Iron—Bird Cage, Reading 10	Hones-Razor-	See Belting, Leather
Cotat and Hat, Reading. 4582 Coat and Hat, Residing. 4582 Coat and Hat, Reading. 4582 Coat and Hat, Wrightsville. 4085 Coat and Hat, Wrightsville. 4086 Coat and Hat, 70840 Coat and Hat, 70	Hooke_Cast Iron-	Lane's Store
Lanterns Tubular	Bird Cage, Reading. 40% Clothes Line, Reading List. 40% Coat and Hat, Reading. 45&20% Coat and Hat, Wrightsville. 60&5% Harness, Reading List. 40%	Improved Noiseless, No. 112
Acme 68&107; Chief. 70%; Crown. 75%; Czar 68x107. V Brace, 75%; Tczar 68x107. V Brace, 75%; Tczar Harness, 50&10%. Wrought Iron— Box. 6 in., per doz., \$0.90; 8 in., \$1.15. Wrought Staples, Hooss. & Gross. Miscellaneous— Hooks, Bench, see Krought Goods. Miscellaneous— Hooks, Bench, see Klops, Bench. Bush, Light, doz., \$6.20; Medium, \$2.756; Heavy, \$7.55. Grass, best, all sizes, per doz., \$2.756; Hooks. 30; \$6.75; Heavy, \$7.55. Grass, common grades, all sizes, per doz. \$2.756; Hooks and Eyes: \$2.756; Hooks and Eyes: \$2.606664.10%. Malleable Iron. 70007064.10%. Corrett Mfg. Co. Gate and Scuttle-Hooks. \$2.756; Hooks. \$2.756; H	Relt, Nos. 1 to 1575&10@80% Wire C. & H. Hooks80@80&10% Bradley Metal Clasp Wire, Coat and	L. & G. Mfg. Co. (low list)20% P., S. & W40&10% Reading
Wrought Iron- Rox. 6 in., per doz., \$0.90; 8 in., \$1.15. Cotton	Hat, 70&10°; Ceiling	Regular, No. 0doz.\$4.35@4.50 Side Lift, No. 0doz.\$4.60@4.75 Hinge Globe, No. 0.doz.\$4.60@4.75
## Cotton	Wrought Iron-	3-inch\$3.75@4.00
Hooks Bench See Stops Bench Bush Light doz. \$6.20 Medium \$6.75 Heavy \$7.65 Grass best all sizes per doz. \$2.75@\$3.00 Sichards' Bull Dog Heavy No. 125 Grass best all sizes per doz. \$2.75@\$3.00 Sichards' Trump No. 127 \$1.50 Sichards' Bull Dog Heavy No. 125 Grass best all sizes per doz. \$2.75@\$3.00 Sichards' Trump No. 127 \$1.50 Leaders Cattle Small doz. 50¢ large 60¢ Covert Mig Co. Gate and Scuttle Hooks God God Hooks God	\$1.15. Cotton	Roggin's Latches, Jap'd, with Screwsdoz.35@40¢
## Content of the con	Hooks, Bench, see Stops, Bench. Bush, Light, doz., \$6.20; Medium, \$6.75; Heavy, \$7.65	Cronk & Carrier Mfg. Co., No. 101, # doz. \$2,00 Richards' Bull Dog, Heavy, No.
Malleable Iron 10@706:10% Covert Mfg. Co, Gate and Scuttle Hooks 40% Ft, Madison Cut-Easy Corn Hooks, \$\frac{1}{2}\text{docks}\$ 25.25 inct. Ft. Madison Cut-Easy Corn Hooks, \$\frac{1}{2}\text{docks}\$ 25.25 inct. Set Turner & Stanton Co. Cup and Shoulder \$5&10% Bench Hooks—See Bench Stops. Corn Hooks—See Knives, Corn, Horse Nails— See Nails, Horse. Horseshoes— See Shoes, Horses. Hose, Rubber— Garden Hose, \$\frac{3}{4}\text{incs}\$. Garden Hose, \$\frac{3}{4}\text{incs}\$. Former Mills— Sply Guaranteed \$1.8\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	\$9.75(c).\$3.00	Leaders, Cattle— Smalldoz.50¢; large, 60¢ Covert Mfg. Co.:
Hooks	Malleable Iron 70@70&10%	Leathers, Pump-
Shoulder S&logs Selogs	Hooks	Lifters, Transom— R. & E
Samon Cordage Works: Solid Braided Chalk, Nos. 0 to 3. 40%	Turner & Stanton Co. Cup and Shoulder	Wire Clothes, Nos. 18 19 20 100 feet \$2.30 1.95 1.75
From 4 to 10 1b. 2½@2¾¢ B. B. Sad Irons 1b. 3½@2¾¢ Mrs. Potts', cents per set: Nos. 50 55 50 65 Jap'd Tops 83 89 93 91 Tin'd Tops 88 85 98 95 New England Pressing. 1b. 3¾@4 Bar and Corner— Richards Mfg. Co., Bar, 60&10½: Corner — 60% Pinking— Pinking— Pinking— Pinking— See Coppers. Jacks, Wagons— Cavert Mfg. Co.; Auto Serew 30&2½; Steel, 45% Auto Serew 30.62 100 Locks— Cabinet Locks	See Nails, Horse.	Samson Cordage Works: Solid Braided Chalk, Nos. 0 to 3.40% Solid Braided Masons'30%
From 4 to 10 1b. 2½@2¾¢ B. B. Sad Irons 1b. 3½@2¾¢ Mrs. Potts', cents per set: Nos. 50 55 50 65 Jap'd Tops 83 89 93 91 Tin'd Tops 88 85 98 95 New England Pressing. 1b. 3¾@4 Bar and Corner— Richards Mfg. Co., Bar, 60&10½: Corner — 60% Pinking— Pinking— Pinking— Pinking— See Coppers. Jacks, Wagons— Cavert Mfg. Co.; Auto Serew 30&2½; Steel, 45% Auto Serew 30.62 100 Locks— Cabinet Locks	See Shoes, Horses. Hose, Rubber-	\$6.00; No. 1, \$6.50; No. 2, \$7.00; No. 3, \$7.50
From 4 to 10 1b. 2½@2¾¢ B. B. Sad Irons 1b. 3½@2¾¢ Mrs. Potts', cents per set: Nos. 50 55 50 65 Jap'd Tops 83 89 93 91 Tin'd Tops 88 85 98 95 New England Pressing. 1b. 3¾@4 Bar and Corner— Richards Mfg. Co., Bar, 60&10½: Corner — 60% Pinking— Pinking— Pinking— Pinking— See Coppers. Jacks, Wagons— Cavert Mfg. Co.; Auto Serew 30&2½; Steel, 45% Auto Serew 30.62 100 Locks— Cabinet Locks	Competitionft. 6(16/4); 3-ply Guaranteedft. 81/2(19); 4-ply Guaranteedft. 91/2(12);	\$2.00; No. 4½, \$2.50; Colors, No. 3½, \$1.75; No. 4, \$2.25; No. 4½, \$2.75; Linen, No. 3½, \$2.50; No. 4, \$3.50; No. 4½, \$4.50
Jap'd Tops	Low Grade	Tent and Awning Lines: No. 5, White Cotton, \$7.50; Drab Cotton, \$8.50
Jap'd Tops	From \$ to 10lb.2½@2¾& B. B. Sad Ironslb.3½@3½&	\$2.75; 60 ft., \$3.25; 70 ft., \$3.75; 75 ft., \$4.00; 80 ft., \$4.25; 90 ft., \$4.75; 100 ft., \$5.25
Bar and Corner— Richards Mfg. Co., Bar. 60&10%; Corner	Mrs. Potts', cents per set: Nos. 50 55 60 65 Jap'd Tops83 80 93 91 Tin'd Tops88 85 98 95	Clothes Lines, White Cotton20% Shade Cord, Cotton or Linen20%
Pinking Irons	Richards Mfg. Co., Bar. 60&10%:	Cabinet Locks331/3@331/3@5% Door Locks, Latches, &o.—
See Coppers. Jacks, Wagons— Overt Mfg. Co.; Auto Screw30&2%; Steel, 45% Lives Parass Sash, &c.— Inc. Parass Sash, &c.—	Irinking Irons	On these goods. Reading Hardware Co
Auto Screw30&2%; Steel, 45% Jacob Patenti	See Coppers. Jacks. Wagons—	R. & E. Mfg. Co. Wrought Steel and
Hichards Tiger Steel, No. 13050&10% Smith & Hemenway Co.'s	Cock port	Sash, &c
	Smith & Hemenway Co.'s	w/s; Arun, w/s; Window Ventilat- ing, 40&20%; Robinson Pat, Venti- lating Sash Lock, 33½%. Pullman Patent Ventilating Lock, 25% Reading Sash Locks

THE IRO	ON AGE
,	D.0
Kettles— rass, Spun, Plain20@25%	Machine Com. Upr't,
rass, Spun, Plain20@25%, nameled and Cast Iron—See Ware, Hollow.	Com. Angl'r
Butcher, Kitchen, &c.— oster Bros.' Butcher, &c30% Vilkinson Shear & Cutlery Co60%	Swan's Impr Jennings', No Millers' Fall Snell's, Upri
Corn-	Reisinger Inv
olumbian Cutlery Co., Wilcut Brand Knives and Hooks	Williams' Fer
Drawing-	Moore's Anti- Moore's Har
tandard List80&10@—% E. E. Jennings & Co., Nos. 45, 46, 25&7½% ennings & Griffin, Nos. 41, 42,	Moore's Cycle Hoist
ennings & Griffin, Nos. 41, 42, 66%&7\% / \% wan's	Chandler's .
Hay and Straw— Serrated Edge, per doz. \$5.00@5.50 Wan's Sickle Edge	Boss Washing Boss No. 1 Boss Rotar Champion I Standard C Standard F Cincinnati Uneda Am
Miscellaneous— "arriers" doz.\$2.60@3.55 Vostenholm's ₩ doz. \$3,00@3,25	Cincinnati Uneeda Am
Knobs-	Hickory Lignumvitæ
Base, 2½-inch, Birch or Maple, Rubber Tipgro.\$1.25@1.40 Carriage, Jap., Drive, all sizes, gro.35@40¢	Tinners' H wood
gro. 35@40¢ 900r, Mineral	Swett Iron Mats, C Acme Flexib
ardsley's Wood Door, Shutters, &c.15%	Elastic Steel Mattoc See Pi
See Belting, Leather	Milk Ca
Ladders, Store, &c.—	Mills, C Enterprise M
ane's Store. 25% tyers' Noiseless Store Ladders50% tichards Mfg, Co.: Improved Noiseless, No, 11250% Climax Shelf, No, 11350% Trolley, No, 10950%	Parker's Colu Parker's Box
Ladles, Melting-	Swift, Lane Motors Divine's Red
& G. Mfg. Co. (low list)20% C. S. & W	Mowers NOTE.—Net
Lanterns—Tubular—	Cheapest, 10¢ for en
degular, No. 0 doz . \$4,35@4,50 lide Lift, No. 0 doz . \$4,60@4.75 linge Globe, No. 0 . doz . \$4,60@4.75 lther Styles	Cheap, 10-in 20¢ for ea Better Gra
Buil's Eye Police— inch	vance 25¢ High Grade Continental
Roggin's Latches, Jap'd, with Screws	Great Americ Great Americ Quaker City Pennsylvania
Door- cronk & Carrier Mfg, Co., No. 101, \$2,00 \$1,00 \$	Pennsylvania
125 Richards' Trump, No. 127\$1,50	Pennsylvania Pennsylvania Pennsylvania
Leaders, Cattle— [malldoz.50¢; large, 60¢ Overt Mfg. Co.: Cotton, 45%; Hemp, 45%; Jute, 35%; Sisal, 20%.	Style A, Lo Style B, Lo Style C, I
35%; Sisal, 20%.	Style D, H Philadelphia: Styles M., Style A. a
See Pumps— Lifters, Transom—	Drexel and
Vire Clothes, Nos. 18 19 20 100 feet	Pony 36-in. Horse Eagle Hors
75 feet\$1.95 1.65 1.50 damson Cordage Works: Solid Braided Chalk, Nos. 0 to 3.40% Solid Braided Masons' 302	Nails-
Silver Lake Braided Chalk, No. 0, \$6.00; No. 1, \$6.50; No. 2, \$7.00; No. 3, \$7.50,	laneous .
White Cotton, No. 3½, \$1.50; No. 4, \$2.00; No. 4½, \$2.50; Colors, No. 3½, \$1,75; No. 4, \$2.25; No. 4½, \$2.75;	Hungarian, ers', &c.
Linen, No. 3½, \$2.50; No. 4, \$3.50; No. 4½, \$4.50	Anchor Coleman New Haven Livingston
Lines— Vire Clothes, Nos. 18 19 20 100 feet \$2.30 1.95 1.75 75 feet \$2.30 1.95 1.75 75 feet \$1.55 1.65 1.50 kamson Cordage Works: Solid Braided Chalk, Nos. 0 to 3.40% Solid Braided Chalk, Nos. 0 to 3.40% Solid Braided Chalk, Nos. 0, \$6.00; No. 1, \$6.50; No. 2, \$7.00; No. 3, \$7.50, No. 2, \$7.00; No. 3, \$7.50, No. 4, \$2.20; Colors, No. 3½, \$1.50; No. 4, \$2.20; No. 4½, \$2.50; Colors, No. 3½, \$1.75; No. 4, \$2.25; No. 4½, \$2.50; No. 4, \$2.50; No. 4, \$2.50; No. 4, \$2.50; No. 4, \$2.50; No. 4½, \$2.50; No. 4½	Western Jobbers' St
Turner & Stanton Co.: Solid Braided Chalk, Masons' and Awning Lines	Brass Hd. Por. Head,
Clothes Lines, White Cotton20% Shade Cord, Cotton or Linen20% Locks— Cabinet—	Brass
Door Locks, Latches, &o -	Nippers
NOTE.—Net Prices are very often made a these goods. teading Hardware Co	Standard Nij Wrought P
Padlocks— R. & E. Mig. Co. Wrought Steel and Brass	Nuts-
Sash Ac	Sauare

Machines-Boring-	Oakum-
Com. Upr't, without Augers, \$2.00@2.25	Dest
Com. Angl'r, without Augers, \$2.25@2.50	U. S. Navy
Swan's Improved	Oil Tanks—See Tanks, Oil.
Swan's Improved	Oilers—
Corking- Reisinger Invincible Hand Power	Steel, Copper Plated
Fence—	### Brass and Copper 50&10% Zinc 55&10% Railroad 60&10&10% Malleable, Hammers' Improved, Nos. 11, 12 and 13, 20%; Old Pattern, Nos. 1, 2, 3, 50%. American Tube & Stamping Co.; Spring Rottom Cans. 700/270&10%
Williams' Fence Machines each, \$5.50	Malleable, Hammers' Improved, Nos.
Hoisting— Moore's Anti-Friction Chain Hoist.30%	11, 12 and 13, 20%; Old Pattern, Nos. 1, 2, 3, 50%.
Moore's Hand Hoist, with Lock	
Brake20% Moore's Cyclone High Speed Chain Hoist25%	Railroad Oilers, &c
Ice Cutting— Chandler's121/2%	Railroad Oilers, &c60@60&10% Openers—Packing Box—
Washing Boss Washing Machine Co.: Per doz.	Herculever, \$\partial \text{doz., \$2430}\%
Boss No. 1	Can Openers— Per doz.
Standard Champion No. 1\$50.00 Standard Perfection\$27.00	Sprague, Iron Handle30@35¢ Sprague, Wood Handle40¢
Hoss Rotary Banner No. 1.357,00 Champion Rotary Banner No. 1.357,00 Standard Champion No. 1350,00 Standard Perfection. \$27,00 Cincinnati Square Western. \$33,00 Unceda American, Round. \$33,60	Yankee Can and Bottle Opener,
Mallets-	Sprague, Iron Handle30@35c Sprague, Wood Handle40¢ Sardine Scissors\$1.75@3.09 Yankee Can and Bottle Opener, doz., net. \$0.75; Little Gem. doz., net\$0.65
Hickory	Hartigan Nickel Plate, \$2.00:
10000	Silver Plate, \$4.00.
Mangers, Stable— Swett Iron Works	Packing— Ashestos Packing, Wick and
Mats, Door-	Rope, any quantity18@20¢
Acme Flexible Steel50% Elastic Steel (W. G. Co.), new list,50%	Rubber— (Fair quality goods.)
See Picks and Mattocks.	(Fair quality goods.) Sheet, C. I
Milk Cans—See Cans, Milk.	Sheet, C. B. S
Mills, Coffee, &c.— Raterprise Mfg. Co.———————————————————————————————————	Sheet, Pure Gum. 40@45¢ Sheet, Red. 40@50¢ Jenkins' '96, \$\partial D, 80¢
National list Jan. 1, 190230% Parker's Columbia and Victoria33% Parker's Box and Side Side 1809.	Miscellaneous-
Swift, Lane Bros. Co30%	American Packinglb. 7@10 ¢ Cotton Packinglb.16@25 ¢
Motors, Water— Divine's Red Devil30%	Italian Packing lb 9a10¢ Jute lb 4a44¢ Russia Packing lb 9a10¢
Mowers, Lawn—	Pails, Water, Well, &c.—
NOTE.—Net prices are generally quoted	See Buckets.
Cheapest, 10-in., \$2.00; advance 10¢ for each size.	Pans— Dripping— Standard List70d10@70d10d5%
Cheap, 10-in., \$2.25; advance 15@ 20¢ for each size.	Refrigerator, Galva.—
Better Grade, 10-in., \$3.00; advance 25¢ for each size.	Inch
High Grade \$4.50 4.75 5.00 5.25	Paper-Building Paper
Continental 60% Great American 70% Great American Ball B'r'g, new list 70% Quaker City 70%	Asbestos: lb. Roll Board or Building Felt.
Quaker City	6 to 30 lb., per 100 sq. ft 2½¢ Roll Board or Building Felt,
Pennsylvania, Jr., Ball Bearing, 50&10&5% Pennsylvania Golf	3-32 and 1/4 in., 45 to 60 lb., per 100 sq. ft
Pennsylvania Horse331/4&5%	Mill Board, Sheet, 40 x 40 in., 1-32 to ½ in
Pennsylvania Pony 40&5% Granite State: Style A, Low Wheel 70% Style B, Low Wheel 70% Style C, High Wheel, spcl, list, 70% Style D, High Wheel, spcl, list, 70% 11st, 70%	Rosin Sized Sheathing: 500 sq. ft.
Style C, High Wheel, spcl, list,	Light weight, 25 lbs. to roll, 48@58¢
Philadelphia :	Medium weight, 30 lbs. to roll. 56@70¢
Philadelphia :	Heavy weight, 40 lbs. to roll.
Philadelphia : Styles M., S., C., K., T 70&10&5 % Style A. all Steel	Heavy weight, 40 lbs. to roll.
Philadelphia : Styles M., S., C., K., T 70&10&5 % Style A. all Steel	56a70¢ Heavy weight, 40 lbs. to roll. 75a78¢ Black Water Proof Sheathing, 500 sq. ft., 1 ply, 65¢; 2 ply. 85¢; 3 ply, \$1.10; 4 ply, \$1.25. Deafening Felt, 9, 6 and 4½ sq.
Philadelphia : Styles M., S., C., K., T 70&10&5 % Style A. all Steel	56a70¢ Heavy weight, \$0 lbs. to roll. 75@78¢ Black Water Proof Sheathing, 500 sq. ft., 1 ply, 65¢; 2 ply. 85¢; 3 ply, \$1.10; 4 ply, \$1.25. Deafening Felt, 9, 6 and 4½ sq. ft. to lb., ton
Philadelphia : Styles M., S., C., K., T70&10&5 // Style A. all Steel	56a70¢ Heavy weight, 40 lbs. to roll. 75a78¢ Black Water Proof Sheathing, 500 sq. ft., 1 ply, 65¢; 2 ply. 85¢; 3 ply, \$1.10; 4 ply, \$1.25. Deafening Felt, 9, 6 and 4½ sq.
Philadelphia: Styles M., S., C., K., T70&10&5 % Style A. all Steel 60&10&5 % Style E. High Wheel 70&10&5 % Drexel and Gold Coin, special list, 40 % Horse 40&5 % 26-in. Horse 30&5 % L. X. L. Horse 30&5 % Nails— Wire Nails and Brads Miscel-	### ### ### ### ### ### ### ### ### ##
Philadelphia: Styles M., S., C., K., T70&10&5 Style A. all Steel	### ### ### ### ### ### ### ### ### ##
Philadelphia: Styles M., S., C., K., T70&10&5% Style A. all Steel	### ### ### ### ### ### ### ### ### ##
Philadelphia: Styles M., S., C., K., T70&10&5% Style A. all Steel	### ### ### ### ### ### ### ### ### ##
Philadelphia: Styles M., S., C., K., T70&10&5% Style A. all Steel	### ### ### ### ### ### ### ### ### ##
Philadelphia: Style M., S., C., K., T70&10&5% Style A. all Steel	### ### ### ### ### ### ### ### ### ##
Philadelphia: Styles M. S. C., K., T70&10&5% Style A. all Steel	### ### ### ### ### ### ### ### ### ##
Philadelphia: Style M., S., C., K., T70&10&5% Style A. all Steel	### ### ### ### ### ### ### ### ### ##
Philadelphia: Style A. all Steel	### ### ### ### ### ### ### ### ### ##
Philadelphia: Style M., S. C., K., T70&10&5% Style A. all Steel	### ### ### ### ### ### ### ### ### ##
Philadelphia: Style A. all Steel	### ### ### ### ### ### ### ### ### ##
Philadelphia: Style A. all Steel	## Heavy weight, \$0 ibs. to roll. 75(a78¢ Plack Water Proof Sheathing. 500 sq. ft., 1 ply, 65¢; 2 ply. 85¢; 3 ply, \$1.10; \$1 ply, \$1.25. Deafening Felt; 9, 6 and \$4½ sq. ft. to lb., ton. \$35,59 Red Rope Roofing, 250 sq. ft. per roll. \$1.75 Tarred Paper
Philadelphia: Style A. all Steel	## Heavy weight, \$0 lbs. to roll. 75@78¢ Black Water Proof Sheathing. 500 sq. ft., 1 ply, 65¢; 2 ply. 85¢; 3 ply, \$1.10; \$ ply, \$1.25. Deagening Felt, 9, 6 and \$4½ sq. ft. to lb., ton
Philadelphia: Style A. all Steel	## Heavy weight, \$0 lbs. to roll. 75(a78¢
Philadelphia: Style A. all Steel	## Heavy weight, \$0 ibs. to roll. 75(a)78¢
Philadelphia: Style A. all Steel	## Heavy weight, \$0 lbs. to roll. 756(78¢ Plack Water Proof Sheathing. 500 sq. ft., 1 ply, 65¢; 2 ply. 55¢; 3 ply, \$1.10; \$1 ply, \$1.25. Deafening Felt, 9, 6 and \$4½ sq. ft. to lb., ton. \$55,50 Red Rope Roofing, 250 sq. ft. per roll. \$1.75 Tarred Paper
Philadelphia: Styles M. S. C., K., T70&10&5% Style A. all Steel	## Heavy weight, \$0 ibs. to roll. 75(a)78¢

Pinking Irons-	king Irons-
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See Irons, Pinking.

Pins, Escutcheon-

Pipe, Cast Iron Soil-

Standard, 2-6 in.......70@—% Extra Heavy, 2-6 in..75&10@—% Fittings, Standard and Heavy, 80&10@80&10&10%

Pipe, Merchant-

	Consumers, Steel.		Iron.		
	%	Galv.	Blk.	Galv.	
1/4 and 1/4 in		50 54	64 66	52	
1/2 in		58 64	68	56 62	
7 to 12 in		56	69	54	

Pipe, Vitrified Sewer-

Car	load l	ots.			
Standard Pip	e and	I Fi	tti	198	. 3
to 24 in., 1	.o.b.	fact	ory	1:	
First-class					.87%
Second-class					.90%

Pipe, Stove-

Edwards' Nested: C. L. L. C. L. 5 in., Standard Blue\$6.25 \$7.25	
E in Claudord Dino \$6.05 \$7.95	
5 III., Standard Dide99.23 91.20	i
6 in., Standard Blue 6.75 7.75	ŀ
7 in., Standard Blue 7.75 8.75	i
5 in., Royal Blue 7.00 8.00	ŀ
6 in., Royal Blue 7.50 8.50	
7 in., Royal Blue 8.50 9,50	ļ
Wheeling Corrugating Co,'s Nested:	
5 in., Uniform Color. \$6.15 \$7.15	
6 in., Uniform Color 6.65 7.65	
7 in., Uniform Color 7.65 8,65	į

Planes and Plane Irons Wood Planes

11 000 1 101100
Bench, first qual 30@30&10%
Rench, second qual 10@10&10%
Molding
Chapin-Stephens Co.:
Bench, First Quality30%
Bench, Second Quality40%
Molding and Miscellaneous 25%
Toy and German30%
Union
Ivan Diance

Iron Planes

Chaplin	a's	Iron	Pla	nes	50&10%
Union					
		Plan	16	Irons-	

Wood	Ber	ich	P	la	91	6	1	1	0	11	8,	,	l	ie	rt	
Dec.	12,	206.		0							0	0		0	25	0
Buck 1																
Chapin	-Step	heni	1 (Co		0.0	0.0	9.1	0	0 0	0 0				.20	3
Union L. & I	*****	ERTA.	4.	***	19.1						or			*	MG.	0
Li, 66 I	. 0.	WILL	re		0.1			0.0	0	0 1	ZA	IC	EU	Æ	1/60	14

Planters, Corn, Hand-Kohler's Eclipse,...... doz. \$7,50

Ple	te	18-	-						
Felloe								. 1b . 3%	@49
					no.				

Standard Wrot, Steel in 100 lb kegs, per 100 lb, %-in. to 1% in., \$4,00 net; 1% in. to 2 in., inclusive, \$3.75 net.

Steel Pipe Hook-

Pliers and Nippers -Button Pliers....75&5@75&10&5% Gas Burners, per doz., 5 in., \$1.25 @\$1.30; 6 in., \$1.45 \$1.50.

(Capa	100 3 0 01013	Acres 4		
Gas I	Pipe 7	8	10	ZE-413.
	Pipe 7	\$2.25	\$2.75	\$3.50
Acme	Nippers			.50&5%
Cronk	& Carrier	Mfg. C	0. :	
Ame	rican Butte	on		80%
Imp	roved Button	a		75&10%
Cron	k's			60%
No.	80 Linemen	S	******	50%
Stub	's Pattern.			45%
Com	bination at	nd othe	T8	331/4 %
Heller	's Farriers	Nippe	TR Pi	ncers
and	Tools	40	& 5@40d	£10&5%
	& W. Ti			
E., O.	. esc vv. 111	mers (utting	40.0/
Swedi	sh Side, I	End an	d Dia	gonal
Cutt	ing Pliers			50%
Dition	Dron Form	& Too	Co.	

Pliers and Nippers, all kinds....40% Plumbs and Levels-

Chapin-Stephens Co.:
Plumbs and Levels 30@30&10%
Chapin's Imp. Brass Cor40@40&10%
Pocket Levels30@30&10%
Extension Sights30@30&10%
Machinists' Levels40@40&10%
Disston's Plun s and Levels 60&10%
Disston's Pocket Levels60&10%
Stanley's Dulex35%
Woods' Extension331/3 %

Points, Glaziers'-

Bulk	and 1-lb.	papers.		9 #
1/2-lb.	papers		lb.	91/2¢
14-10.	papers		 10	10 ¢

Police Goods-

Manufacturers' Lists . . 25@25&5%

Polish-Metal, Etc-

			,	_	
Prestoline doz., \$3.00	Liquid,	No.	1 (%	pt.).	30
doz., \$3.00	; No. 2	(1 (qu.).	\$9.00.	.40%
Prestoline	Paste		-		ANY

George William Hoffman: U, S, Metal Polish Paste, 3 oz. boxes, \$\polenote{9} \dox, 50\epsilon; \$\polenote{9} \text{gro}, \$4.50; \$\phi\$ boxes, \$\polenote{9} \dox, \$1.25; 1 b boxes, \$\polenote{9} \dox, \$2.25. U, S, Liquid, \$\polenote{9} \text{oz}, \text{cans}, \$\polenote{9} \dox, \$\frac{1}{2}\$, \$2.55.

\$1.25. Barkeepers' Friend Metal Polish, \$4 doz., \$1.75.

2tove-
Black Eagle Benzine Paste, 5 th cans.
Black Eagle, Liquid, 1/2 pt. cans
Black Jack Paste, % fb cans, \$\tilde{y}\$ gr. \$9.0 Black Kid Paste, 5 fb caneach, \$0.6
Ladd's Black Beauty Liquid, per 100 tins\$6.7
Joseph Dixon. \$9 gr. \$5.75
Dixon's Plumbago # fb 8¢ Fireside # gr. \$2.5
Gem, 19 gr. \$4.50
Peerless Iron Enamel, 10 oz. cans
₩ doz. \$1.5

Window Polish-

Benj. P. Forbes:			
Glasbright, No.	2, gal	pails, ‡	doz.,
\$24.00; each,	\$2.50;	1 10	cans,
each			75
Glasbright Powe	der, bl	bls., P	Tb20

Poppers, Corn-

1 qt. Square..doz.\$0.80; gro.\$8.75 1 qt. Round..doz.\$0.90; gro.\$10.00 1½ qt. Square.doz.\$1.20; gro.\$12.00 2 qt. Square..doz.\$1.50; gro.\$15.00

Post Hole and Tree Augers and Diggers-

See also Diggers, Post Hole, &c.

Posts, Steel-

Steel Fence Posts, each, 5 ft., 42¢; 6 ft., 46¢; 6½ ft., 48¢. Steel Hitching Posts.....each \$1.30

See Parers, Potato.

Pots, Glue-Enameled40%

Tinned
Powder-
In Canisters:
Duck, 1 lb each 45¢
Fine Sporting, 1 lb each 75¢
Rifle, 1/2-1h
Rifle, 1 lbeach 25¢
In Kegs:
181/2-lb. kegs
25-1b. kegs
King's Semi-Smokeless:
Keg (25 lb bulk)\$6,50
Half Keg (12½ fb bulk)\$3.50 Quarter Keg (6¼ fb bulk)\$1.90
Case 24 (1 lb cans bulk)\$8.50
Half case (1 fb cans bulk)\$4.50
King's Smokeless: Shot Gun, Rifle,
Keg (25 % bulk)\$12.00 \$15.00
Half Keg (121/2 lb bulk) 6.25 7.75
Quarter Keg (61/4 th bulk) 3.25 4.00
Case 24 (1 7b cans bulk) 14.00 17.09
Half case 12 (1 lb c. bk) 7.25 8.75

Presses-

Fruit and Jelly-

Morrill's No. 1, @ doz., \$20.00.....50%

Pruning Hooks and Shears

See Shears. Pullers, Nail-

Cyclops				50%
Miller's	Falls, I	0, 3,	doz.,	\$12.00
Morrill's	No. 1.	Nail	Puller.	33/3 & 10 /6
\$20.00				50%
Pearson	No. 1,	Uyelon	e Spike	Puller.
each \$	30.00		*******	50%

each \$30,00	50%
The Scranton Co. Case Lots:	
No. 2B (large)	\$5,50
No. 3B (small)	\$5.00
Smith & Hemenway Co.: Diamond B	
Diamond B	70%
Giant	50%
Staple Pullers, Utica and D	
9/11)	60.9/

Pulleys, Single Wheel-

Inch	11/2	6 13/4	2	3
Awnin	g or Tackle,			
do:	30.30	.15	.60	1.05
Hay F	ork, Swivel o	r Soli	dE	ye.
	doz., 4 in., \$1.	25; 5	in.,	\$1 55
Inch		. 2	21/4	24
	louse, doz 8			
	· · · · · · · · 11/4			2
Screw	, aoz 80.16	.19	.23	.30
Inch			21/4	21/4
Side.	doz\$0.25	.50	.55	.60
Inch		1%	2	21/4

Sash Pulleys-

Common Frame; Square or
Round End, per doz., 1% and
nound zina, per doz., 174 und
2 in
w marriage and a state of the s
Auger Moritae, no Face Plate.
mayer morrose, no ruce riute,
now dow 18/ and 0 in societa
per doz., 1% and 2 in
Acme, No. 351% in., 19¢; 2 in., 201/2 ¢
Actine, 200, 301% III., 190 , 2 III., 2072 6
American Pulley Co.:
THE STATE OF THE S
Wrought Steel American Plain
Axle50&10%
Wrought Steel, Eagle17@20 c
PRom Markett Sin All Sin
Top Notch, Electrically Welded,
Nos 3 and 4 10.4
Nos. 3 and 419¢
Fox-All-Steel, Nos, 3 and 7, 2 in
Fox-All-Steel, Nos. 3 and 7 2 in
200 2 2000
4º doz. 50%
Grand Rapids All Steel Noiseless. 50%
All Steel Noiseless. 30 /
Niagara, No. 25, 1% in., 19e; 2
\$100 AND
In201/2 &

in. 20½ 6 No. 25 Troy. 1% in. 14½ 6 : 2 in. 16½ 6 Star. No. 25. 1% in. 19¢ ; 2 in., 20½ 6 Tackle Blocks—See Blocks.

Pumps

Cistern
Ditahan Chant WESECHES 100
Pitcher Spout 75&5@75&10%
Wood Pumps, Tubing, &s50%
Barnes Dbl. Acting (low list) 45%
Barnes Pitcher Spout80
Contractors' Rubber Diaphragm, No.
2. B. & L. Block Co\$16.00
D. C. L. DIUCK CO
Daisy Spray Pump @ doz. \$6.5
Flint & Walling's Fast Mail Hand
(low list)50%
Flint & Walling's Fast Mail (low
list)50%
list)
Pitcher
National Specialty Mfg. Co., Measur-
ing, Nos. 2, \$6.00; 3, \$5.5030%
36
Myers' Pumps (low list)40&5%
Myers' Power Pumps40&5%
Myers' Spray Pumps40&5%
Derman I andhama

Pump Leathers-Plunger and Valve Leathers-Per

No		2	3	4	1
	\$5.00	6.00		8.00	1 88
Cup Leat			00:		1 20
Inch	. 21/2		31/2	4	
	\$5.00	7.00	9.00	12.00	

Funches—
Saddlers' or Drive, good, doz.50@75
Spring, single tube, good qual-
ity\$1.
Revolving (4 tubes) doz . \$3.
Bemis & Call Co.'s Cast St'l Drive.50
Morrill's Nos, 1AA, 1A, 1B, 1C,
1D, \$15.0050
Hercules, 1 die, each \$5.0050
Niagara Hollow Punches40
Niagara Solid Punches55&10
Tinners' Hollow, P., S. & W. Co. 40
Tinners' Solid, P., S. & W. Co., 19
doz., \$1,4440

Rail-Barn Door, &c.-

Sliding Door, Painted Iron,
21/3/023/4 ¢
Sliding Door, Wrought Brass,
11/8 in., lb., 36¢
Cronk's:
Double Braced Steel Rail. If ft. 314 ¢
O. N. T. Rail\$3.12
Griffin's:
xxx 40 100 ft., 1 x 3-16 in., \$3,25; 114 x 3-16 in., \$3.75.
1¼ x 3-16 in., \$3.75.
Hinged Hanger, 49 100 ft., 1 x 3-16
in., \$3,50: 11/4 x 3-16 in., \$4.00,
Lano's:

in.	\$3,50	: 134	x 3-	16 in	1. \$	4.00	
Lane's	:						
Hing	ed Tr	rack,	99 1	100 f	t		\$3.45
O. N	. T.,	P 10	O ft.	, 1 i	n., \$	3.00	; 11/4
in.,	\$3.45	; 1%	in.,	\$4.0	0.		
Stand	dard.	1% i	11		. 18 1	00 f	t. \$1,00

Standard, 1% III 19 100 16. 41400
Lawrence Bros.:
1 x 3-16 in., \$9 100 ft., \$7.50; 1\% x
3-16 in., \$8.75
McKinney's:
Hinged Hanger Track, W ft., 11¢.
filliged Hanger Hack, with, 114.
1 x 3-16 Track
Myers' Stayon Track60&5%
Dichards Mfg Co :

Michards Mile, Co.,
Common, 1 x 3-16 in., \$3.00; 1% x
3-16. \$3.25; 1¼ x 3-16, \$3.50,
Special Hinged Hanger Rail. 60&10%
Lag Screw Rail, No. 6550%
Gauge Trolley Track, & ft., No. 31,
9¢; No. 32, 14¢; No. 33, 20¢.
No. 50
Nos. 61, \$3,00; 62, \$3,25; 63, \$3.50; 64,
\$4,00; 45, \$3,25; 46, \$3,50; 49, No. 1,
\$3.25; 49, No. 2, \$3.50.
40.40; so, 210; a; 401001

Rakes-

NOTEMany goods are sold
at net prices.
Fort Madison Red Head Lawn\$3,25
Fort Madison Blue Head Lawn\$2.70
Cronk's:
Steel Garden: Champion, 75%;
Ideal, 80%; Victor80&25%
Queen City Lawn, & doz., 20 teeth,
\$2.85; 24, \$3.00net
Anticlog Lawn. 49 doz\$4.00
Malleable Garden70&10%
Ideal Steel Garden, \$\pi\$ doz., 12 teeth.
\$15.00; 14, \$16.00; 16, \$18.0080%
Kohler's:
Jumbo Lawn, 36-tooth \$\mathfrak{Q}\text{ doz. \$5.00} \text{Lawn Queen. } 20-tooth \mathfrak{P}\text{ doz. \$2.85}
Lawn Queen, 20-tooth 49 doz. \$2.85
Lawn Queen, 26-tooth 39 doz. \$3.00
Paragon, 20-tooth doz. \$2.65
Paragon, 24-tooth
Steel Garden, 14-tooth @ doz. \$2.40
Malleable Garden, 14-tooth, A doz.
\$1.75@2.00

Rasps, Horse

	on's
Liver	ight Bros.' Gold Medal.70&10@75%
	60&10&5%
	Nicholson70&10@75% also Files,

Razors-

Lian	a Bo-ras-ic	
Fox	Razors, & doz., No. 42, \$20.00;	è
No.	44, \$20.00; No. 82, Platina.	ì
3m3.	00.	
Red	Devil65%	

Reels, Fishing-

Hendryx:
M 6, Q 6, A 6, B 6, M 94, M 16,
Q 16, A 16, B 16, 4008, Rubber,
Populo, Nickeled Populo20
Aluminum. German Silv., Bronze,25
1240 N. 124 N
3004 N. 06 N. 6 RM. G 925
3004 N, 06 N, 6 RM, G 925 4 N, 6 PN, 24 N, 26 PN20
2904 P. 3314 V · 2904 PN 3314 V
0924 N., 331/4 %; 02084 N., 331/4 %;
002904 PN., 3314%; 802 N., 3314%.
986 PN, 2904 N, 974 PN25
5009 PN 5009 N20
Competitor, 102 P. 102 PN, 202 P.
202 PN. 102 PR. 202 PR20
5M P. 304 PN. 00304 P. 00304 PN. 3334

Registers-List July 1, 1993.

Bingle	Actio) ?	в.										9	15	ė	6	\$1.00	
Double	Acti	0	n		e	a	c	e	p	t	4	4	-	ce	u		\$2.00	
Double	Acti	io	91	,		4	1	-	30	u	il	16	9				\$2.00	
Automo	itic															۰	\$4.00	
Hamme	rlege																24 50	

Riddles, Hardware Grade

16	in.				per	doz.\$2.50@\$2.75
17	in.				per	doz. \$2.75@\$3.00
18	in.	0			 per	doz.\$3.00@\$3.25

Rings and Ringers-

		-	-		- B -	
				2	234	3 inch.
Steel .				.\$0.70	0.75	0.80 doz
Copper				. \$1.10	1.25	1.65 doz.

Hog Rings and Ringers-

Hill's Rings, gro. boxes.\$4.50@\$4.50 Hill's Ringers, Gray Iron, doz., 60@75¢ Hill's Ringers, Malleable Iron, doz.80@55¢

doz.80@95¢ Blair's Rings..per gro.\$5.00@\$5.50 Blair's Ringers...per doz.75@90¢

Rivets	and	Bu	rs-	
Copper Carriage, Black . Metallic	Coop	ers',	Tinne	ra', &c.: .70&10%

Bifurcated and Tubular-

Assorted in Boxes.
Bifurcated, per doz. boxes, pasteboard boxes, 50 count, 23@25¢;
Tin boxes, 100 count, 29@32¢.
Tubular, per doz. boxes, 50 count,
29@32¢; 100 count, 51@58¢.

Rollers-

Cronk's Stay	No. 50	No !	\$1.00
No. 56,	0.75; No	. 60	\$0.73
Lane's Stay, Richards' St	tay:		
O. K. Adj	and Re	versible	No. 58 50 d
Lag Screw	. Nos. 58	and 5	750 %
Underwrite, Favorite,	No. 54	39, 60.	

Rope

Manila, 7-16 in. diam. and larger Pure	
Sisal, 7-16 in. diam. and larger:	
Pure	ě
Sisal, Hay, Hide and Bale	
Ropes, Medium and Coarse:	
Pure	d
Sisal, Tarred, Medium Lath	
Yarn:	
Pure 15 63/ 67	d

Wire Rope-

Galvanized371/4&21/4% Plain45&21/2%

Rop	es,	Hammock-
Covert 1	Mfg. 35%;	Co.: Sisal20%

Rules

110100
Boxwood
Chapin-Stephens Co.:
Boxwood60%
Flexifold402
Ivory25@25&10%
Miscellaneous
Stephens' Combination55%
Stationers' 50@50&10°
Kenffel & Esser Co :
Folding, Wood35&10%
Folding, Steel
Lufkin's Steel
Lufkin's Lumber50&10%
Upson Nut Co.:
Boxwood
Ivory35&10@35&10&10%
The state of

Sash Balances-

See Balance, Sash.

Sash Locks-See Locks, Sash.

Sash Weights

See Weights, Sash.

Sausage Stuffers or Fillers See Stuffers or Fillers, Sausage.

Saw Frames— See Frames, Saw.

Saw Sets-See Beta, Baw.

Saw Tools-See Tools, Saw.

711121131 20, 1900	THE INC	N AGE	333
Saws-	Rolled Thread, F. H. or R. H., Iron	Acme Cast Snips	Slates, School-
Atkins':	F. H. or R. H., Brass, Nos. 8 to 14	lin	"D" Slates50@50&10%
Butcher Saws	Set and Cap-	10 in	6067 tens.
One-Man Cross Cut. 40% Narrow Cross Cut. 50% Hand, Rip and Panel. 35&5 Miter Box and Compass. 40%	Set (Iron)		Victor A, Noiseless . 60d4 tens &5%
Miter Box and Compass		P. S. & W. Forged Handles, 25%; W. R. W	Slaw Cutters—See Cutters. Snaps, Harness—
Mulay, Mill and Drag	Hex. Hd. Cap70&10&7\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Pruning Shears—	German40@40&10%
Turning Saws and Frames. 30(a30&10% Diamond Saw & Stamping Works:	Fillister Ha. Cap60&71/2%	Cronk's Hand Shears33\\\\%\\\Cronk's Wood Handle Shears33\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Covert Mfg. Co.; Derby, 25%; Yankee, 30&2%; Yankee Roller, 30&2%, High Grade, 40%; Trojan40%
Sterling Kitchen Saws30&10&10% Disston's: Circular, Solid and Ins'ted Tooth.50%	Wood— List July 23, 1903,	Disston's Combined Pruning Hook and Saw, \$\Phi\$ doz, \$18.0025% Disston's Pruning Hook only, \$\Phi\$	High Grade, 40%; Trojan40% Jockey
Band, 2 to 18 in. wide	Flat Head, Iron871/450% Round Head, Iron85450%	John T Honey Mfg Co.	Snaths-
Crossents	Round Head Brass 771/45@ 9	Pruning Shears, all grades40% P., S. & W. Co40&10% Columbian Cutlery Co.:	Scythe
Narrow Crosscuts. 50 % Mulay' Mill and Drag. 50 % Framed Woodsaws. 25 % Woodsaw Blades. 25 %	Flat Head, Bronze75&5@% Round Head, Bronze.724&5@%	Hedge, Wilcut Brand60&10% Lawn and Border, Wilcut Brand,	Snips, Tinners—See Shears. Spoons and Forks—
Woodsaw Blades	Drive Screws87 1/265@%	60&10%	Silver Plated-
D8, 120, 76, 77, 8	See Saics, Scroll.	Sheaves - Sliding Door Reading40%	Good Quality50&10@60&5% Cheap60@60&10%
Compass, Key Hole, &c25% Butcher Saws and Blades30%	Scythes— Per doz.	R. & E. list15%	International Silver Co: 1847 Rogers Bros., 40&10%; Rogers & Hamilton. 50&10%
C. E. Jennings & Co.'s:	Grass, No. 1, Plain\$7.00 Clipper, Bronzed Webb\$7.25	Sliding Shutter— Reading list40%	& Hamilton
Butcher Saws	No. 3 Clipper, Pol'd Webb\$7.50 No. 6 Clipper and Solid Steel.\$7.75	R. & E. list	Eagle Brand
Framed Wood Saws	Bush, Weed and Bramble, Nos. 11, 12 and 13	Shells—Shells, Empty— Brass Shells, Empty:	Miscellaneous German Silver60@60&5%
Hand Saws	Grain, No. 1	Climax, 10 and 12 gauge65&10% Club, Rival, 65&5%; First Quality, 60&5%	Tinned Iron- Teasper gro. 50@556
Butcher Saws	Nos. 3 and 4 Clipper, Grain, \$9.50@10.00	Paper Shells, Empty: New Rapid, 10, 12, 16 and 20 gauge,	Tables per gro . \$0.90@\$1.00
Victor Kitchen Saws 404:104:507	Solid Steel, No. 6\$10.00@10.50	Climax, 10 and 12 gauge: Acme, 10.	Springs— Door— Bardsley's Spring and Check40%
Butcher Saws Blades35@40 Peace & Richardson's Hand Saws.30 Simonds':	Seeders, Raisin— Enterprise25@30%	12, 16 and 20 gauge; Ideal, 10, 12, 16 and 20 gauge; Leader grade,	Chicago (Coil)40&10% Gem (Coil)20%
Circular Saws	Sets- Awl and Tool-	Union League, 12 and 12 gauge; Rival Grade	Poliance (Coil) 404-10%
Gang Mill, Mulay and Drag Saws, 45% Band Saws	Fray's Tool Handles, Nos. 1, \$12; 2, \$16; 3, \$12	Rival Grade	Star (Coll)
Back Saws	Millers Falls Adj. Tool Handles, No. 1, \$12; No. 4, \$12; No. 5, \$1820&10%	and 20 gauge	11/4 in. and Wider: Per 100 lb.
Hand Saws	Garden Tool Sets-		Half Bright \$4.75@\$5.00
Wood Saws	Ft. Madison Three Plows, Hoe, Rake and Shovel	Shells, Loadett- Loaded with Black Powder40%	Bright\$5.25@\$5.50 Painted Seat Springs:
	Sets, Nail- Octagongro.\$3.50@3.75	Loaded with Smokeless Powder, medium grade1045%	1½ x 2 x 26per pair. 45@ 47¢ 1½ x 3 x 28per pair. 68@ 71¢
Hack Saw Blades and Frames—	Cannon's Diamond Point, \$\mathbb{T} \text{ gro. \$12,}	Loaded with Smokeless Powder, high grade40&10&10%	Sprinklers, Lawn- American Foundry & Mfg. Co.:
Atkins' Hack Saw Blades A A A25% Disston's:	Mayhew's \$\tag{40&10\%} \text{gro. \$\\$9.0\\}	Union Metallic Cartridge Co.: New Club, Black Powders40% Nitro Club, Smokeless Powders.40&5% Arrow, Smokeless Powders,40&10&10%	Cactus, 65%; Japanese, 70%; Na-
Concave Blades. 25% Keystone Blades. 35% Hack Saw Frames. 30%	Mayhew's \$\ \pi \ \gamma \text{gro. \$8.00} \\ \text{Snell's Corrugated, Cup Pt \$40&10\'\ \text{Snell's Knurled, Cup Pt \$40&10\'\ \text{Victor Knurled, Cup Pt \$7.50} \\ \text{gro. \$7.50} \end{array}	Arrow, Smokeless Powders, 40&10&10% Winchester:	Enterprise
Simonds File Co	Rivet-	Winchester: Smokeless Repeater Grade40&5% Smokeless Leader Grade40&10&10%	Squares—
	Regular list	Shingles, Metal— Per Sq.	Nickel plated List Jan. 5, 1900. Steel and Iron. \ 80@80&5%
Hack Saws, Nos. 175, 180, complete, 40&7½% Goodell's Hack Saw Blades40&10%	Atkin's:	Edwards Mfg. Co.:	Rosewood Hdl. Try Square and
Griffin's Hack Saw Frames35&5&10%	Adjustable	Painted. Galv. \$4.25 \$6.00 10 x 14	Iron Hdl. Try Squares and T-
Grinn's Hack Saw Blades52606.197, Star Hack Saws and Blades1526.108, Sterling Hack Saw Blades302.1026.597, Sterling Power Hack Saw Machines. each, No. 1, \$25.00; No. 2, \$30.001097,	Morrill's No. 1\$15.00)	7 x 10	Bevels40410@40410410% Disston's Try Squares and Bevels,
Sterling Power Hack Saw Machines, each, No. 1, \$25.00; No. 2, \$30.0010%	Nos. 3 and 4, Cross Cut. \$20.60 No. 5, Mill. \$30.00 Nos. 10, 11, 95 \$15.60 No. 1 Old Style \$10.00	Dixie, 14 x 20 in\$4.25 \$5.50 Dixie, 10 x 14 in 4.50 6.00 Dixie, 7 x 10 in 5.00 6.75	Rosewood Handle, 60 & 10%; Iron Stock and Bevel
Victor Hack Saw Blades	No. 1 Old Style	Shoes, Horse, Mule,&c.—	Squeezers, Lemon Wood, Porcelain Lined:
National Hand Blades	Royal, Hand	F.o.b. Pittsburgh: Ironper keg. \$4.10	Cheap
National Hand Frames30&5% National Power Blades30&10%	Shaving-	Steel per keg \$3.85 Burden's, all sizes	Tinned Irondoz.\$0.75@1.00 Iron, Porcelain Lineddoz.\$1.75
Scroll— Barnes, No. 7, \$15	Fox Shaving Sets, No. 30	Shot-	Staples-
Barnes' Velocipede Power Scroll Saw, without boring attachment, \$18;	Smith & Hemenway Co.'s75%	Drop, up to B	Barbed Blind85&5@85&10% Electricians'80&10&10@85%
with boring attachment, \$2020%	Sharpeners, Knife—	Drop, B and larger 2.05 Buck 2.05	Galvanized
ester, complete, \$10.00	Pike Mfg. Co.: Fast Cut Pocket Knife Hones, O doz\$1.50	Chilled	Poultry Netting Staples per lb. 31/4@31/2¢
Scales-	Mounted Kitchen Sand Stone, or doz\$1.50 Natural Grit Carving Knife	Shovels and Spades—	Steels, Butchers'-
Union Platform, Plain.\$2.10@2.20 Union Platform, Stpd.\$2.20@2.30	Hones & doz\$3.00 &	Association List, Nov. 15, 1902.40% Avery Stamping Co40%	Dick's
hatillon's: Eureka25%	Hones, \$\psi\$ doz\$3.00 \$\pm2\$ Quick Cut Emery Carving Knife Hones, \$\pm3\$ doz\$1.50 Quick Edge Pocket Knife	Snow Shovels—	Steelyards —30@30&10% Stocks and Dies—
Favorite	Hones, ₩ doz\$2,50●) Skate—	Long Handle	Blacksmiths' 50@50&10%
The Standard R. R. and Wag- on50&10%	Smith & Hemenway Co., Eureka50%	Sieves and Sifters-	Derby Screw Plates. 25% Green River. 25% Lightning Screw Plate. 25%
Scrapers-	Shaves, Spoke-	Hunter's Imitation, gro\$9.50 Hunter's Genuine, per gro\$12.00	Little Willie Commence 95%
Box, 1 Handledoz.\$1.85@2.10 Box, 2 Handledoz.\$2.35@2.50	Wood	Sifters, Ash-	Reece's New Screw Plate25% Stoners, Cherry
hip Light, \$2.00; Heavy, \$4.50 hapin-Stephens Co., Box30@30&10% lichards Mfg. Co., Foot	Bailey's (Stanley R. & L. Co.) 45% Chapin-Stephens Co 30@30&10% Goodell's, @ doz, \$9.00 15&10%	Acme Ball Bearing Sales Co., Acme Automatic Ash Sifter, each, \$3.25; doz,	Enterprise
Screws—Bench and Hand	Shears-	Sieves, Seamless Metallic	
Bench, Iron, doz., 1 in., \$2.50@	Cast Iron. 7 8 9 in.	Mesh 14 16 18 20	Pike Mfg. Co., 1907 list: 7 to Arkansas St. No. 1, 3 to 5½ in.\$2,80 Arkansas St. No. 1, 5½ to 8 in.\$3.50
2.75 : 114. \$4.000ct3.25 : 114 \$8 500ct 8.75	Best \$16.00 18.00 20.00 gro. Good \$13.00 15.00 17.00 gro. Cheap \$5.00 6.00 7.00 gro.	Iron Wire\$1.05 1.05 1.10 1.20 Tinned Wire\$1.15 1.15 1.20 1.30	Arkansas St., No. 1, 5% to 8 in. 35.30 Arkansas Slips No. 1
Tand, Wood	Cheap \$5.00 6.00 7.00 gro. Straight Trimmers, &c.: Best quality Jap70@70&10%	Sieves, Wooden Rim- Nested, 10, 11 and 12 Inch.	Washita St., Extra, 4 to 8 in. 50 ¢ Washita St., No. 1, 4 to 8 in. 40 ¢
70@70&10&2½% Coach, Lag and Hand Rail—	Best quality Nickel60@60&10% Tailors' Shears40@40&10%	Mesh 18, Nesteddoz. \$0.90@0.95 Mesh 20, Nesteddoz. \$1.00@1.05	Washita St., No. 2, 4 to 8 in25¢ Lily White Slips90¢ Rosy Red Slips90¢
ag, Cone Point 80&5 @ 80&10% oach, Gimlet Point 80 @ 80&5 %	Acme Cast Shears	Mesh 24, Nested doz. \$1.30@1.40	Washita Slips, Extra80¢ Washita Slips, No. 170¢
iana Rail	National Cutlery Co.'s Nickel Plated. 60&10%; Japan Handles	Sinks. Cast Iron—	Washita Slips, No. 2
Jack Screws- tandard List70&10@75%	Sheep, 1900 list30&:10&5%	12 x 12 to 22 x 36 in 60% 20 x 24 to 24 x 50 in 50%	Quickcut Emery and Corundum Oil Stone, Double Grit
fillers Falls	Grass	24 x 60 to 24 x 120 4n 30 % Barnes' low list	Quickcut Emery and Corundum Axe Stone, Double Grit
Machine-	Horse or Mule	NOTE.—There is not entire uniformity in lists used by jobbers.	Hindostan No. 1, R'g'lar 27 to 8¢ Hindostan No. 1, Small. 27 to 10¢ Axe Stones (all kinds). Turkey Oil Stones, Extra, 5 to 10¢
Out Tread, Iron, Brass or Bronze:	Tailors'	Skeins, Wagon-	Turkey Oil Stones, Extra, 5 to
Fillster Head or Round Head, 500350410%	Steel Blades 2045@20&10%	Cast Iron	Queer Creek Stones, 4 to 8 in 20 ¢
Fillister Head40@40410%	Steel Laid Blades 40&10@50%	100000000000000000000000000000000000000	Sand Stone 6¢)

2. 3. 4 and 5-Ply Jute, 114.15.
Balls 1901 4
Mason Line, Linen, 4-15. Bls.17c
No. 264 Mattress, 4 and 46 lb.
Balls, according to quality

Wool, 8 to 6 ply . . . B 6¢; A 71/2¢

Solid Box 5065@5061065%

Vises

Ties, Bale-Steel Wire-

Single Loop.......821/2610% Monitor, Cross Head, dc.70d21/2% Tinners' Shears, &c.— See Shears, Tinners', &c.

554
Scythe Stones-
Pike Mfg, Co., 1901 list; Black Diamond S, S., \$\psi\$ gro, \$12.00 Lamolile S, S.,, \$\psi\$ gro, \$12.00 White Mountain S, S., \$\psi\$ gro, \$3.50 Green Mountain S, S., \$\psi\$ gro, \$7.00 Extra Indian Pond S, \$\psi\$ gro, \$5.00 No, 1 Indian Pond S, \$\psi\$ gro, \$5.00 No, 2 Indian Pond S, \$\psi\$ gro, \$5.00 Leader Red End S, \$\psi\$ gro, \$5.00 Leader Red End S, \$\psi\$ gro, \$5.00 Quick Cut Emery \$\psi\$ gro, \$5.00 Pure Corundum \$\psi\$ gro, \$5.00 Emery Scythe Rifles, 2 Coat, \$11.00 Emery Scythe Rifles, 2 Coat, \$11.00 Emery Scythe Rifles, 4 Coat, \$13.20 Balance of 1904 list \$35\psi\$, Electro (Artificial) \$\psi\$ gro, \$12.00\$12.00\$18.00\$33\psi\$.
Stoppers, Bottle-
Victor Bottle Stoppers 9 gro. \$9.0
Stops- Bench-
Millers Falls
Door-
Chapin-Stephens Co50@50&10
Plane- Chapin-Stevens Co20
Street Box-
Acme Embossed, case lots. 20&10&10
Stretchers, Carpet— Cast Iron, Steel Pointsdoz.5: All Steel Socketdoz.82.00@2.8 Excelsior Stretcher and Tack Hammer Combined, & doz., \$6.0020 Stuffers, Sausage—
Enterprise Mfg. Co
Bissell Carpet Sweeper Co.: \$\frac{30}{2}\$ do Superba, Crotch Mahogany, \$36. Triumph, Fancy Veneers. \$33. Parlor Queen, Fig. Rosewood. \$30. Elite, Hungarian Ash. \$29. Am. Queea, Fig. Mahogany, \$27. Ideal, Bird's Eye Maple. \$25. Grand Rapids, Nickel, \$24.00; Japan \$22. Crown Jewel, Nickel, \$22.00; Japan, \$22. Crown Jewel, Nickel, \$21.00; Japan, \$26. Grand, I' in, wide. \$36. Grand, I' in, wide. \$36. Parlor Grand. \$48. Club, 24 in, wide. \$34. Hall \$25 in, wide. \$36.
NOTE.—Rebates: Sie per dozen of three dozen lots; \$1 per dozen on fit dozen lots; \$2 per dozen on tendozo lots; \$2.50 per dozen on twenty-five dozolots; \$2.50 per dozen on twenty-five dozolots. Tacks, Finishing Nails,
A.C.
American Carpet Tacks90&40 American Cut Tacks90&40 Suedes' Cut Tacks90&40 Suedes' Upholsterers'90&50 Gimp Tacks90&50 Lace Tacks

Extra Indian Pond S. S. & gro. 3.7.50 No. 1 Indian Pond S. S. & gro. 3.7.50 No. 2 Indian Pond S. S. & gro. 3.7.50 No. 2 Indian Pond S. S. & gro. 5.00 Quick Cut Emery. 38 gro. 510.00 Pure Corundum. 4 gro. 510.00 Pure Corundum. 5 gro. 510.00 Emery Scythe Rifles. 2 Coat. 318.00 Emery Scythe Rifles. 3 Coat. 511.00 Emery Scythe Rifles. 4 Coat. 313.20 Halance of 1904 list 334% Electro (Artificial). 52 512.00 5334%	Tinware-
Leader Red End S. S. & gro. \$5.00 Quick Cut Emery gro. \$10.00	Stamped, Japanned and Pieced, sold very generally at net prices,
Pure Corundum gro. \$18.00 Crescent 57.00	Tire Benders, Upsetters, &c.
Emery Scythe Rifles, 2 Coat, \$8.80 Emery Scythe Rifles, 3 Coat.\$11,00	See Benders and Upsetters, Tire.
Emery Scythe Rifles, 4 Coat.\$13.20 J Balance of 1904 list 331/4%	Tools—Coopers'— L. & I. J. White20@20&5%
Electro (Artificial), & gro., \$12.00	Haying-
\$12.00	Myers' Hay Tools45%
Stoppers, Bottle-	Gifford-Wood Co15%
Victor Bottle Stoppers 9 gro. \$9.00	Miniature-
Stops- Bench-	Smith & Hemenway Co.'s, David- son, & doz., Nickel Plated, \$1.50; Gold Plated\$2,00
Millers Falls	Saw-
Morrill's, No. 2, \$12.5050%	Atkins' Cross Cut Saw Tools35&5" Simond's Improved
Door-	Simonds' Crescent25%
Chapin-Stephens Co50@50&10%	Ship— L. & I. J. White25%
Chapin-Stevens Co20%	Transom Lifters—
Straps- Box-	See Lifters, Transom.
Acme Embossed, case lots20&10&10% Cary's Universal, case lots20&10&10%	Traps—Fly— Balloon, Globe or Acme, doz.,
Stratchers, Carpet-	Balloon, Globe or Acme, doz., \$1.15@\$1.25; gro\$11.50@12.00 Harper, Champion or Paragon, doz., \$1.25@1.\0; gro.\$13.00@13.50
Cast Iron, Steel Pointsdoz.55¢ All Steel Socketdoz.\$2.00@2.25 Excelsior Stretcher and Tack Ham- mer Combined, \$\pi\$ doz \$6.0020%	doz., \$1.25@1.40; gro.\$13.00@13.50
mer Combined, if doz., \$6.0020%	Game-
Stuffers Sausage-	Newhouse
Enterprise Mfg. Do	Victor
Enterprise Mfg. To	Imitation Oncida
Sweeper', Carpet-	Mouse and Rat- Mouse, Wood, Choker, doz. holes,
Bissell Carpet Sweeper Co.: \$\frac{2}{3}\text{doz}.\$ Superba, Crotch Mahogany. \$36.00 Triumph, Fancy Veneers. \$33.00 Parlor Queen, Fig. Rosewood. \$30.00 Elite, Hungarian Ash. \$29.00 Am. Queen, Fig. Mahogany \$27.00 Ideal, Bird's-Eye Maple. \$25.00 Grand Rapids, Nickel, \$24.00: Janan	12¢
Parlor Queen, Fig. Rosewood. \$30.00	Mouse, Round or Square Wire, doz.85@90¢
Am. Queen, Fig. Mahogany\$27.00	Marty French Rat and Mouse Traps (Genuine), \$\psi\$ doz.:
Grand Rapids, Nickel, \$24.00;	No. 1, Rat \$11.50 \$14.50
Japan \$22.00 Standard, Nickel, \$22.00; Japan \$20.00 Crown Jewel, Nickel, \$21.00; Jap.\$19.00	Marty French Rat and Mouse Traps (Genuine),
Crystal, Glass Top	No. 5, Mouse \$2.25 \$3.00 Animal Trap Co.:
Crystal, Glass Top. 2 356.00 Grand, 17 in, wide 4 36.00 Parlor Grand. \$18.00 Club, 24 in, wide. \$54.00 Hall 28 in, wide. \$60.00	Out o' Sight, Mouse, \$\psi\$ doz\$0.66 Out o' Sight, Rat, \$\psi\$ doz 1.20
Hall 28 in, wide\$60.00	Easy Set, Mouse, & doz
NOTE.—Rebates: See per dozen on three dozen lots; \$1 per dozen on five- dozen lots; \$2 per dozen on ten dozen lots; \$2 per dozen on ten dozen	holes
toes; bear per aucen on twenty nee wosen	No. 5, Mouse. \$2.25 \$3.00 Animal Trap Co.: Out o' Sight, Mouse, \$2.25 \$3.00 Sight, Mouse, \$2.25 \$3.00 Animal Trap Co.: Out o' Sight, Rat. \$2.00 Easy Set, Mouse, \$2.00 Carlot o' Sight, Chockers, \$2.00 Cout o' Sight, Chockers, \$2.00 Cout o' Sight, Tin, 5-hole, \$2.00 Carlot o' Sight, Tin, 5-hole, \$2.0
Tacks, Finishing Nails,	I rowels—
&c.	Disston Brick and Pointing
American Cut Tacks90440% American Cut Tacks90440%	den Trowels30% Kohler's Steel Garden Trowels. #9 gro.
American Carpet Tacks 90&40% American Cut Tacks 90&40% Swedes' Cut Tacks	Disston "Standard Brand " and Garden Trowels. 30% Kohler's Steel Garden Trowels, #9 gro., 5 in., \$4.80; 6 in., \$6.00. Never-Break Forged Steel Garden Trowels, in bulk, net #9 gro. \$5.00 In 1 doz, boxes #9 gro., \$6.00 Woodrough & McParlin, Plastering 22*
Gimp Tacks	Trowels, in bulk, net \$\text{9} \text{ gro. \$5.50} \\ \text{In 1 doz, boxes} \text{8} \text{ gro. \$6.00}
Trimmers' Tacks	Trucks, Warehouse, &c.
Bill Posters' and Railroad Tacks,	B. & L. Block Co.:
90&50&10% Hungarian Nails80&20%	B. & L. Block Co.: New York Pattern
Hungarian Nails	
NITTE - The HOUSE DIRECT GIVE JOY	Grocery
Straight Weights.	Tubs, Wash-
Miscellaneous- Double Pointed Tacks,	M'f'gr's list, price per gross. No. 0 1 2 3
Se also Nails, Wire.	Galvanized . \$67 \$79 \$89 \$99 10671/2 6565%
Tanks, Oil and Gasoline-	Twine, Miscellaneous-
Wilson & Friend Co.: Gal, Gasoline Oil	Flax Twine:
30 \$2.75 \$3.00	No. 9, 1/4 and 1/6-lb. Balls . 21@ 23¢
(a) \$3.50 \$4.00	No. 9, 1/4 and 1/2-lb. Balls .21@23¢ No. 12, 1/4 and 1/2-lb. Balls .19@21¢ No. 18 1/4 and 1/2-lb. Balls .16@18¢
(a) \$3,50 \$4.00 110 \$5,00 \$5.75	No. 9, ¼ and ½-lb. Balls .21@23¢ No. 12, ¼ and ½-lb. Balls .19@21¢ No. 18, ¼ and ½-lb. Balls .16@18¢ No. 24, ¼ and ½-lb. Balls .
110 \$5.00 \$5.75 Tapes, Measuring-	No. 9, ¼ and ½-lb. Balls. 21@23¢ No. 12, ¼ and ½-lb. Balls. 19@21¢ No. 18, ¼ and ½-lb. Balls. 16@18¢ No. 24, ¼ and ½-lb. Balls. 15½@11½¢ No. 36, ¼ and ½-lb. Balls. 15@17¢¢
110 \$5.00 \$5.75 Tapes, Measuring— American Asses' Skin50@—% Patent Leather25@30&5%	No. 9, ¼ and ½-lb. Balls. 21@22te No. 12, ¼ and ½-lb. Balls. 19@21e No. 18, ¾ and ½-lb. Balls. 16@18e No. 24, ¾ and ½-lb. Balls. No. 85, ¼ and ½-lb. Balls. No. 85, ¼ and ½-lb. Balls. 15@17e Chalk. Line. Cotton
110 \$5.00 \$5.75 Tapes, Measuring— American Asses' Skin50@—% Patent Leather25@30&5%	No. 9, ¼ and ½-lb. Balls. 21@23¢ No. 12, ¼ and ½-lb. Balls. 19@21¢ No. 18, ¼ and ½-lb. Balls. 16@18¢ No. 24, ¼ and ½-lb. Balls. 16@18¢ No. 85, ¼ and ½-lb. Balls. 15@17¢ Chalk Line, Cotton Balls Cotton Mops. 6, 9, 12 and 1, 16
110 \$5.00 \$3.75 Tapes, Measuring American Asses' Skin50@—% Patent Leather25@3065% Steel3314.65% Chesterman's25@2565% Keuffel & Esser CoFavorite, Ass Skin40&10@50%	No. 9, ¼ and ½-lb. Balls. 21@23¢ No. 12, ¼ and ½-lb. Balls. 19@21¢ No. 18, ¾ and ½-lb. Balls. 16@18¢ No. 24, ¼ and ½-lb. Balls. 15½@17½¢ No. 35, ¼ and ½-lb. Balls. 15@17¢ Chalk Line, Cotton Balls. 24@29¢ Cotton Mops, 6, 9, 12 and 15 lb to doz. 8½@19¢ Cotton Wrapping, 5 Balls to th
110 \$5.00 \$5.75 Tapes, Measuring— American Asses' Skin50@—% Patent Leather25@30.45% Steel 33'4.65% Chesterman's 25@25.65% Keuffel & Esser Co.; Favorite, Ass Skin40&10@50% Favorite, Duck and Leather	No. 9, ¼ and ½-lb. Balls. 21@22¢ No. 12, ¼ and ½-lb. Balls. 16@18¢ No. 18, ¾ and ½-lb. Balls. 16@18¢ No. 24, ¼ and ½-lb. Balls. 15½@17½@17½¢ No. 36, ¼ and ½-lb. Balls. 15@17¢ Chalk Line, Cotton Balls. 24@29¢ Cotton Mops, 6, 9, 12 and 1. ib to doz. 24@29¢ Cotton Wrapping. 5 Balls to ib. according to quality 13½@19¢ American 3 Plu Henn.
110 \$5.00 \$5.75 Tapes, Measuring— American Asses' Skin 50/30-% Patent Leather 25/30/45 % Steel 33 1/4 63 % Chesterman's 25/30/25/65 % Keuffel & Esser Co Favorite, Ass Skin 40/&10/650 % Favorite, Duck and Leather Metallic and Steel, lower list, 35/9 35/85 %: Pocket, 35/30/35/85 10 %	No. 9, ¼ and ½-lb. Balls. 21@ 22¢ No. 12, ¼ and ½-lb. Balls. 16@ 18¢ No. 18, ¾ and ½-lb. Balls. 16@ 18¢ No. 24, ¾ and ½-lb. Balls. 15½@ 17½@ No. 25, ¼ and ½-lb. Balls. 15@ 17¢ Chalk Line, Cotton ½-lt Balls
110 \$5.00 \$5.75 Tapes, Measuring— American Asses' Skin50@—% Patent Leather25@3045% Steel33½65% Chesterman's25@2565% Keuffel & Esser Co.: Favorite, Ass Skin40&10@50% Favorite, Duck and Leather	No. 9, ¼ and ½-lb. Balls. 21@21¢ No. 12, ¼ and ½-lb. Balls. 16@18¢ No. 18, ¾ and ½-lb. Balls. 16@18¢ No. 24, ¾ and ½-lb. Balls. 15½@17½@ No. 86, ¼ and ½-lb. Balls. 15@17¢ Chalk Line, Cotton 1 Balls
110 \$5.00 \$5.75 Tapes, Measuring— American Asses' Skin50@—% Patent Leather25@30.45% Steel33 \\ d.5 \\ \) Chesterman's25@25.45% Keuffel & Esser Co.: Favorite, Ass Skin40&10@50% Favorite, Duck and Leather Metallic and Steel, lower list, 35@ 35&5%; Pocket, 35@35&5% Lufkins: Asses' Skin40&10@50% Metallic30@30&5% Patent Bend, Leather25&5@25&10% Packet	No. 9, ¼ and ½-lb. Balls. 21@ 22¢ No. 12, ¼ and ½-lb. Balls. 16@ 18¢ No. 18, ¾ and ½-lb. Balls. 16@ 18¢ No. 24, ¼ and ½-lb. Balls. 15@ 17¢ Chalk Line, Cotton Balls
110 \$5.00 \$5.75 Tapes, Measuring— American Asses' Skin50@—% Patent Leather25@30.45% Steel33 \\ d.5 \\ \) Chesterman's25@25.45% Keuffel & Esser Co.: Favorite, Ass Skin40&10@50% Favorite, Duck and Leather Metallic and Steel, lower list, 35@ 35&5%; Pocket, 35@35&5% Lufkins: Asses' Skin40&10@50% Metallic30@30&5% Patent Bend, Leather25&5@25&10% Packet	No. 9, ¼ and ½-lb. Balls. 21@21¢ No. 12, ¼ and ½-lb. Balls. 16@18¢ No. 18, ¾ and ½-lb. Balls. 16@18¢ No. 24, ¾ and ½-lb. Balls. 15½@17½@ No. 86, ¼ and ½-lb. Balls. 15@17¢ Chalk Line, Cotton 1
110 \$5.00 \$5.75 Tapes, Measuring— American Asses' Skin 50/20—% Patent Leather 25/30/30/45 % Steel 33 14/46 % Chesterman's 25/25/46 % Favorite, Duck and Leather 25/36/25/54 10/4 Metallic 10/36/35/55/7. Pocket 35/35/55/7. Lufkins: Asses' Skin 40/64/10/35/67 Metallic 30/30/36/55/7. Lufkins: Asses' Skin 40/64/10/35/67 Metallic 30/30/36/55/7. Patent Bend, Leather 25/45/25/54/10/45/55/55/55/55/55/55/55/55/55/55/55/55/	No. 9, ¼ and ½-lb. Balls. 21@221¢ No. 12, ¼ and ½-lb. Balls. 16@18¢ No. 18, ¾ and ½-lb. Balls. 16@18¢ No. 24, ¾ and ½-lb. Balls. 15@17¢ Chalk Line, Cotton Literal Balls Line, Cotton Balls Line, Cotton Literal Balls Line, Cotton Balls Line, Cotton Literal Balls Line, Cotton Balls Line, Cotton Literal Balls Line, Literal Balls Line, Line Line, Cotton Wrapping, 5 Ralls Line, according to quality. 18½@19¢ American 2 Ply Hemp, 1. and 1½-lb. Balls Line, Line
110 \$5.00 \$5.75 Tapes, Measuring— American Asses' Skin50@—% Patent Leather25@30.45% Steel33 ½ 45 % Chesterman's25@25.45 % Keuffel & Esser Co.: Favorite, Ass Skin40&10@50% Favorite, Duck and Leather	No. 9, ¼ and ½-lb. Balls. 21@ 22¢ No. 12, ¼ and ½-lb. Balls. 16@ 18¢ No. 18, ¾ and ½-lb. Balls. 16@ 18¢ No. 24, ¼ and ½-lb. Balls. 15@ 17¢ Chalk Line, Cotton Balls

ON MUZ
Parallel-
Simpson's Adjustable40%
Athol Machine Co.: Simpson's Adjustable
slide
Fisher & Norris Double Screw, net,
\$20.50; 5, \$27.00.
Reed, Swivel
Star, Solid Jaw
Machinists'
Lewis Tool Co.:
Adjustable Jaw
Machinists' 49@40&5 % Keystone
Clincher 40% Perfect, 15%; Lightning Grip
Merrill's
Parker's:
Parker's: Victor, 20@25%; Regulars20@25% Vulcan's
Rock Island 959/
Stephens X L 3314 Stephens 334 Stephens 334 Stephens 334 Stephens 334 Stephens 34 Stephens
Saw Filers
Disston's D 3 Clamp and Guide, 39
Perfection Saw Clamps, 19 doz\$4.50
Reading
Fulton Mach, & Vise Co.:
Massey Vise Co.:
Wyman & Gordon's Quick Action 6
Star
Holland's Combination Pine 60/260.65
Massey's Quick Action Pipe40%
Miscellaneous- Holland's Combination Pipe. 50@60&5% Massey's Quick Action Pipe. 40% Parker's Combination Pipe: 87 Series, 60%; 187 Series, 60&5%; No, 870, 40%. Rock Island Pipe
Book Jaland Dine
Nock Island Pipe
Wads-Price per M.
W ds
B. E., 9 and 10
B. E., 7
P. E., 11 up
P. E., 8 and 10 1.50
P. E., 7 1.50
Ely's B. E., 11 and larger. \$1.70(a).75 Elu's P. E. 12 to 20 \$3.00(a).25
Ware, Hollow-
Cast Iron, Hollow- Stove Hollow Ware:
Stove Hollow Ware:
Store Hotolo Ware: Enameled
Plain or Unground60%
lhs
White Enameled Ware:
Tinned and Turned 354109
Enameled
Enameled—
Agate Nickel Steel Ware3314%
Agate Nickel Steel Ware
Tea Kettles-
Lava and Volcanic, Enameled. 40&10% Tea Kettles— Galvanized Tea Kettles: Inch 6 7 8 9
Each 45 9 50 \$ 55 65 65 65
Steel Hollow Ware-
Steel Hollow Ware— Avery Stamping Co.: Never-Break Spiders and Griddles
dles 65&10% Steel Kettles Maslins Scotch Bowls, Tin'd 60% Steel Stew Pans, Stew Pots, etc. Porcelaired 50%
Bowls, Tin'd
Steel Stew Pans, Stew Pots, etc., Porcelained50%
Solid Steel Kettles60&5%
Pike Mfg. Co., Soapstone40@40&10%
Washboards—
0-114 771 50 3
Crescent, family size, bent frame. \$4.05 Red Star, family size, stationary protector\$4.05
protector
Saginaw Globe, family size, station-
Cable Cross family size station-
Single Zinc Surface: Naiad, family size, open back, perforated \$3.00 Single Saginaw Globe \$2.85
Single Saginaw Globe\$2.85
Brass Surface: Brass King, Single Surface, open
back
No. 1001 Nickel Plate, Single Sur-
face \$3,60 Glass Surface: Glass King, Single Surface, open back \$3,95
Glass King, Single Surface, open back\$3.95
Enamel Surface:
Enamel King, Single Burface, venti- lated back
Washers-Leather, Axle-
Solid
Solid
9e 10e 11e 14e per box.
Iron or Steel
Washers \$4.65 3.75 2.45 2.25 2.05
\$6.75 off list.

In lots less than one keg	14.
### To list. Avery Stamping Co.: Standard, in 206 lb kegs, \$6.00 100 lb. disct, in 100 lb kegs, a 10¢ net \$\frac{1}{2}\$ 100 lb, in 5 or 10 boxes, add 50¢ net \$\frac{1}{2}\$ 100 lb. 10 lb. **To boxes**, add \$1.00 net 100 lb.**	33
100 fb, disct.; in 100 fb kegs, s 10¢ net № 100 fb; in 5 or 10 boxes, add 50¢ net № 100	dd lb lb:
in 1 h boxes, add \$1.00 net	369
Cast Washers— Over ½-inch, barrel lots. per lb.1½@	134.6
Wedges-	
Oil Finishlb., 24@ Weights-Hitching-	
Covert Mfg. Co	
Per net ton, f.o.b. factory: Eastern District \$21.006 Western and Central	@—
Districts\$20.09@\$	22.00
Wheels, Well— 8-in., \$2.00; 10-in., \$2.30; 12 \$3.00; 14-in., \$4.45.	
Wire and Wire Goods- Bright and Annealed:	
Bright and Anneated: 6 to 9	11/2% £10% 21/6%
6 to 9	65% 65%
15 to 16	21/2%
27 to 35	£10%
6 to 9. 65&10¢ 10 to 14. 70¢16 15 to 18. 65&10¢10¢ 19 to 26. 70¢5¢ 27 to 36. 72½¢10¢	£10%
6 to 18	base
Specied Wire	
Annogled and Tinned	.75%
Retailers' Assortments, per b	02.
Wire Picture Cord, see Cord. Bright Wire Goods-	_
Wire Clothes Line, See Lines. Wire Picture Cord, see Cord. Bright Wire Goods- Steel Wire Goods	£10%
Wire Cloth and Netti	ng—
Galvanized Positry Netting, 28624/43866 Painted Sereen Cloth, 100 ft., Standard Galv. Hardware Gr 100 ft. rolls, 24 to 48 in. wie Per 100 sq. ft. Nos. 2, 24 and 3 Mesh Nos. 4 and 5 Mesh Nos. 7 and 8 Mesh	7½% \$1.35
Standard Galv. Hardware Gr 100 ft. rolls, 24 to 48 in. wie	ade: le,
Nos. 2, 21/2 and 3 Mesh Nos. 4 and 5 Mesh	\$2.75 \$3.00
Nos. 7 and 8 Mesh	\$3.75
Wire, Barb-See Trade Re Wrenches-	
Agricultural	a75%
Baxter Pattern & Wrenches, 70&5070. Drop Forged &	£10% 5£5%
Acme Alligator Pattern, 70%; Bull Dog Bemis & Call's:	70%
Remis & Call's; Adjustable S. 40&5%; Adjustal Pipe, 40&5%; Briggs Pattern, Combination Bright, 50%. Steel Handle Nut	40%;
Combination Black	i0&5 %
Merrick Pattern. Boardman's Coes' Genuine Knife Hdl. 49&10& Coes' Genuine Steel Hdl. 49&10& Coes' Genuine Key Model. 49&10& Coes' Genuine Hammer Handle Coes' 'Mechanics' ''. 49&10&10& Donohue's Engineer Eagle	5&5
Coes' Genuine Key Model. 40&10& Coes' Genuine Hammer Handle	5&5%
Donohue's Engineer	5&5% 0&10% 70%
Douolus's Engineer. 4 Eagle Gen Pocket. Hercules W & B. Machinist Case lots. Less than case lots. Less than case lots. 40 Less than case lots. 40 Less than case lots. 50 Less than case lots than	70%
Less than case lots	50&5%
Less than case lots40& Solid Handles, P., S. & W.,50&1	10&5%
full cases	10&5%
Uwanta Special Iron Handle	
Other Wrenches	10&5% 50% 50%
Less than case lots	50%
Fruit Jar— Beni. P. Forbes, Triumph, \$9 a \$7.50; per doz.	gro.,
Wrought Goods-	
Staples, Hooks, &c., list Ma	
Sheetper 100 Tb.,	11.) \$7.00

